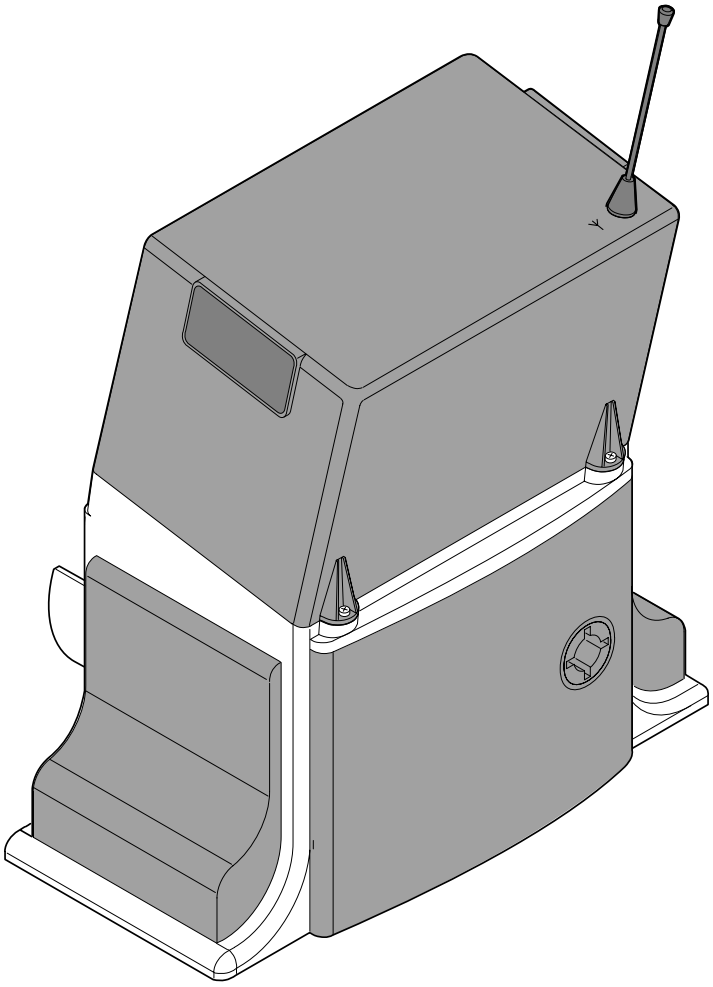
Step



GENIUS®

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

CE

AVVERTENZE PER L'INSTALLATORE

OBBLIGHI GENERALI PER LA SICUREZZA

1) **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.**
2) Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.
3) I materiali dell'imballaggio (plastica, polistirolo, ecc.) non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.
4) Conservare le istruzioni per riferimenti futuri.
5) 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.
6) GENIUS declina qualsiasi responsabilità derivata dall'uso improprio o diverso da quello per cui l'automatismo è destinato.
7) Non installare l'apparecchio in atmosfera esplosiva: la presenza di gas o fumi infiammabili costituisce un grave pericolo per la sicurezza.
8) Gli elementi costruttivi meccanici devono essere in accordo con quanto stabilito dalle Norme EN 12604 e EN 12605.
   Per i Paesi extra-CEE, oltre ai riferimenti normativi nazionali, per ottenere un livello di sicurezza adeguato, devono essere seguite le Norme sopra riportate.
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 sogli 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) Tenere fuori dalla portata dei bambini radiocomandi o qualsiasi altro datore di impulso, per evitare che l'automazione possa essere azionata involontariamente.
24) Il transito tra le ante deve avvenire solo a cancello completamente aperto.
25) L'Utente utilizzatore deve astenersi da qualsiasi tentativo di riparazione o d'intervento diretto e rivolgersi solo a personale qualificato.
26) Non mettere in corto circuito i poli delle batterie e non tentare di ricaricarle con alimentatori diversi dalle schede Master o Slave.
27) Non gettare le batterie esauste nei rifiuti ma smaltirle utilizzando gli appositi contenitori per consentirne il riciclaggio. I costi di smaltimento sono già stati pagati dalla casa costruttrice.
28) **Tutto quello che non è previsto espressamente in queste istruzioni non è permesso**

IMPORTANT NOTICE FOR THE INSTALLER

GENERAL SAFETY REGULATIONS

1) **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.**
2) Carefully read the instructions before beginning to install the product.
3) Do not leave packing materials (plastic, polystyrene, etc.) within reach of children as such materials are potential sources of danger.
4) Store these instructions for future reference.
5) 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.
6) GENIUS declines all liability caused by improper use or use other than that for which the automated system was intended.
7) Do not install the equipment in an explosive atmosphere: the presence of inflammable gas or fumes is a serious danger to safety.
8) The mechanical parts must conform to the provisions of Standards EN 12604 and EN 12605. For non-EU countries, to obtain an adequate level of safety, the Standards mentioned above must be observed, in addition to national legal regulations.
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) Keep remote controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
24) Transit through the leaves is allowed only when the gate is fully open.
25) The user must not attempt any kind of repair or direct action whatever and contact qualified personnel only.
26) Do not short-circuit the poles of the batteries and do not try to recharge the batteries with power supply units other than Master or Slave cards.
27) Do not throw exhausted batteries into containers for other waste but dispose of them in the appropriate containers to enable them to be recycled. Disposal costs have already been paid for by the manufacturer.
28) **Anything not expressly specified in these instructions is not permitted.**

CONSIGNES POUR L'INSTALLATEUR

RÈGLES DE SÉCURITÉ

1) **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.**
2) Lire attentivement les instructions avant d'installer le produit.
3) 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.
4) Conserver les instructions pour les références futures.
5) 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.
6) GENIUS décline toute responsabilité qui dériverait d'usage impropre ou différent de celui auquel l'automatisme est destiné.
7) Ne pas installer l'appareil dans une atmosphère explosive: la présence de gaz ou de fumées inflammables constitue un grave danger pour la sécurité.
8) Les composants mécaniques doivent répondre aux prescriptions des Normes EN 12604 et EN 12605.
   Pour les Pays extra-CEE, l'obtention d'un niveau de sécurité approprié exige non seulement le respect des normes nationales, mais également le respect des Normes susmentionnées.
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) Eloigner de la portée des enfants les radiocommandes ou tout autre générateur d'impulsions, pour éviter tout actionnement involontaire de l'automatisme.
24) Le transit entre les vantaux ne doit avoir lieu que lorsque le portail est complètement ouvert.
25) L'Usager qui utilise l'installation doit éviter toute tentative de réparation ou d'intervention directe et s'adresser uniquement à un personnel qualifié.
26) Ne pas mettre en court-circuit les pôles des batteries et ne pas tenter de les recharger avec d'autres platines d'alimentation que les platines Maître ou Esclave.
27) Ne pas jeter les batteries épuisées à la poubelle, mais les éliminer dans les conteneurs spécifiques pour le recyclage. Les coûts d'élimination des déchets ont déjà été payés par le constructeur.
28) **Tout ce qui n'est pas prévu expressément dans ces instructions est interdit.**

STEP Automated system

These instructions apply to the following model:

STEP

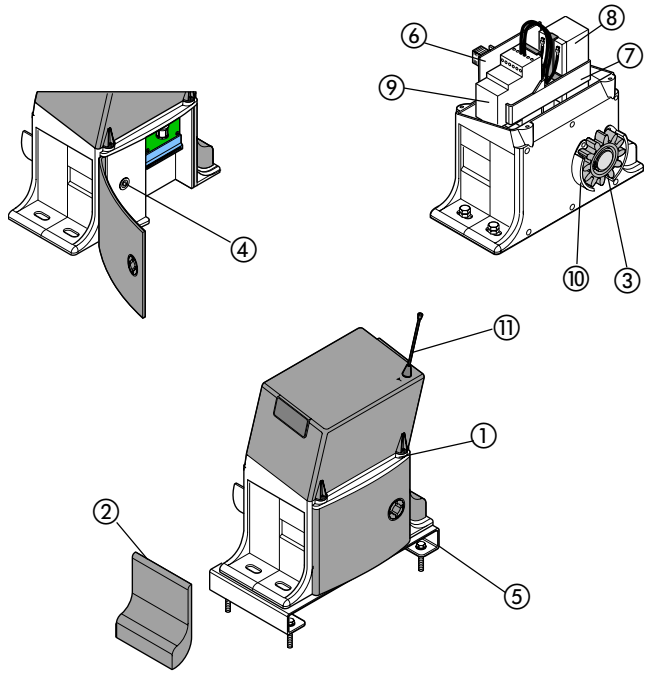
The STEP automated system automates residential sliding gates with leaves of up to 5 m in length and 300 kg in weight.
It consists of non-reversing electro-mechanical gearmotor, powered by a 12 Vdc battery coupled to a control board that recharges the battery. The board can be programmed and is used to set the following: function logics, work times (by self-learning) and pause times, leaf speed, anti-crushing sensitivity, and partial opening width.
The non-reversing system guarantees the gate will automatically lock when the motor is not operating. A release system enables the gate to be moved by hand in case of trouble.

The STEP automated system was designed and built for controlling vehicle access. Do not use for any other purpose.

TABLE 1 TECHNICAL SPECIFICATIONS OF STEP GEARMOTOR

MODEL	STEP
Power supply	12Vdc
Rated absorbed power (W)	48
Max. static torque (Nm)	13.5
Max linear load-free speed (m/min.)	15
Static force (N)	560
Use frequency (cycles/hour)	5
Consecutive cycles on charged battery	max. 15
Battery recharge time	10' for each completed cycle
Operating ambient temperature	-20 ÷ +55 °C
Operator Weight (Kg)	5,3
Protection class	IP 44
Leaf max length (m)	5
Leaf max weight (Kg)	300
Operator overall dimensions LxHxD (mm)	see fig. 2

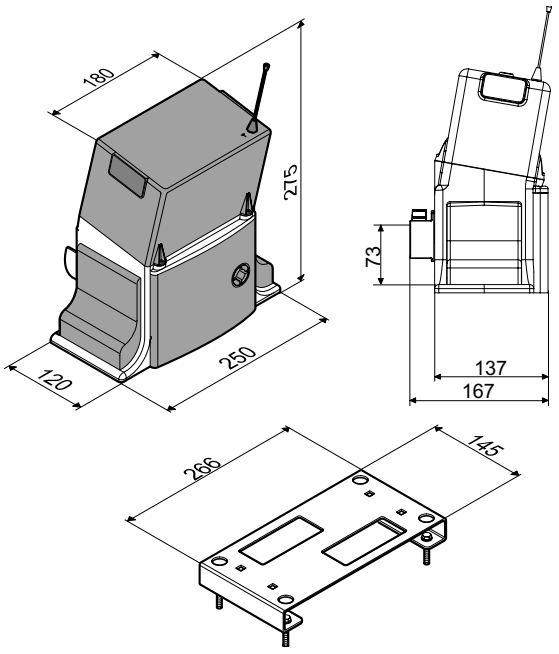
1. DESCRIPTION AND TECHNICAL SPECIFICATIONS



① Step operator
② Protective side panels
③ Pinion
④ Manual release
⑤ Foundation plate
⑥ Control board
⑦ Battery and transformer support
⑧ Battery
⑨ Transformer (Optional)
⑩ Hand guards
⑪ Antenna (Optional)

Fig. 1

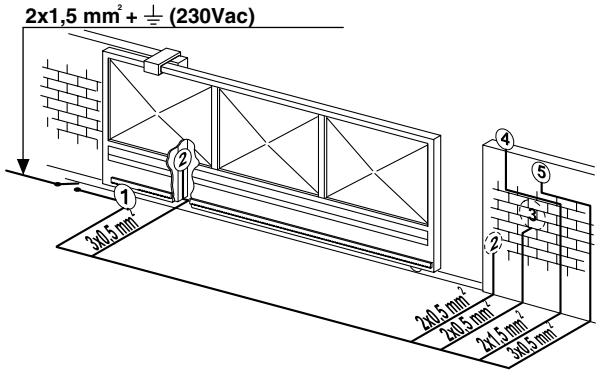
2. DIMENSIONS



• *Dimensions in mm*

Fig. 2

3. ELECTRONIC EQUIPMENT (standard system)



① Step operator with equipment.
② Photocells
③ Key operated push-button
④ Flashing lamp
⑤ Radio receiver

Notes: 1) To lay electric cables, use adequate rigid and/or flexible tubes.

2) Always separate low voltage connection cables from those operating at 230 Vac. To prevent any interference whatever, use separate sheaths.

Fig. 3

4. INSTALLING THE AUTOMATED SYSTEM

4.1. PRELIMINARY CHECKS

To ensure safety and an efficiently operating automated system, make sure the following conditions are observed:

- The structure of the gate must be suitable for it to be automated. In particular, wheel diameter must be in relation to the weight of the gate to be automated, and dimensions and weight must match those indicated in the technical specifications.
- Make sure that the gate slides without any inclination.
- Make sure that the gate moves uniformly and correctly, without any irregular friction during its entire travel.
- The soil must permit sufficient stability for the expansion plugs securing the foundation plate.
- Check if the upper guide and travel limit mechanical stops are installed.

We advise you to have any metalwork carried out before the automated system is installed.

4.2. SECURING THE FOUNDATION PLATE

- Fit the 4 supplied caged nuts, as shown in figure 4, in the 4 square holes of the plate.
- The foundation plate must be located as shown in figure 5 (right closing) or figure 6 (left closing) to ensure the rack and pinion mesh correctly.
- Secure the foundation plate to the floor, using adequate expansion plugs (fig. 7) and provide one or more sheaths for routing the electric cables. Using a spirit level, check if the plate is perfectly level.
- Lay the electric cables for connection to the accessories and power supply as shown in figure 3.
  To facilitate making the connections, allow the cables to project by about 20 cm from the hole (Fig.5-6 ref. ①) of the foundation plate.

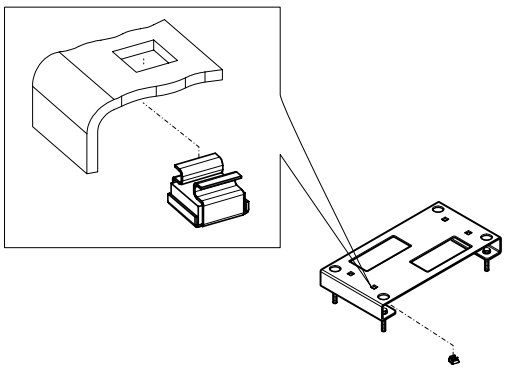
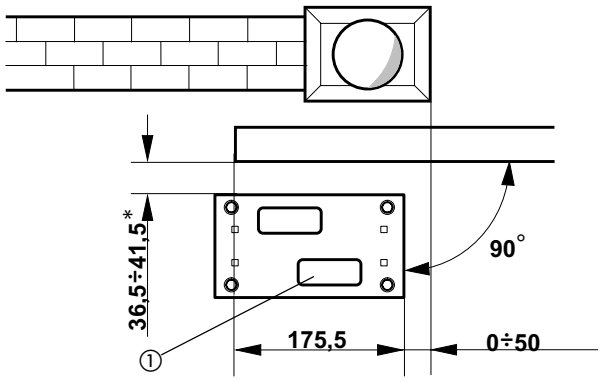
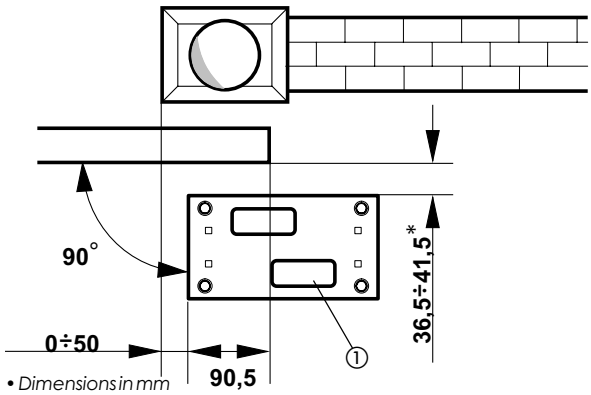


Fig. 4



• *Dimensions in mm*
*Use the dimensions according to type of rack.
Galvanised rack 30x6 = 36.5
Galvanised rack 30x12 = 39.5
Nylon rack 30x20 = 41.5

Fig. 5



• *Dimensions in mm*
*Use the dimensions according to type of rack.
Galvanised rack 30x6 = 36.5
Galvanised rack 30x12 = 39.5
Nylon rack 30x20 = 41.5

Fig. 6

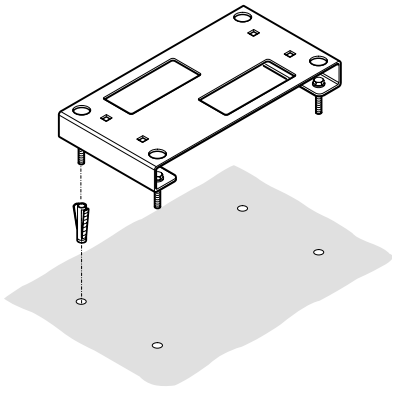


Fig. 7

4.3. MECHANICAL INSTALLATION

- Position the operator on the plate, using the supplied screws as shown in figure 8.

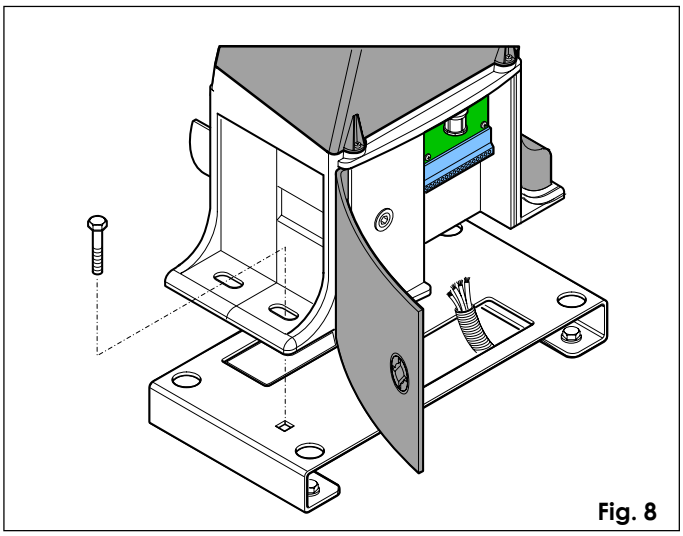


Fig. 8

- Adjust the distance of the operator from the gate by referring to fig. 9.
- Secure the gearmotor to the foundation plate, tightening the screws as in Fig.10.
- Prepare the operator for manual operating mode as described in chapter 13.

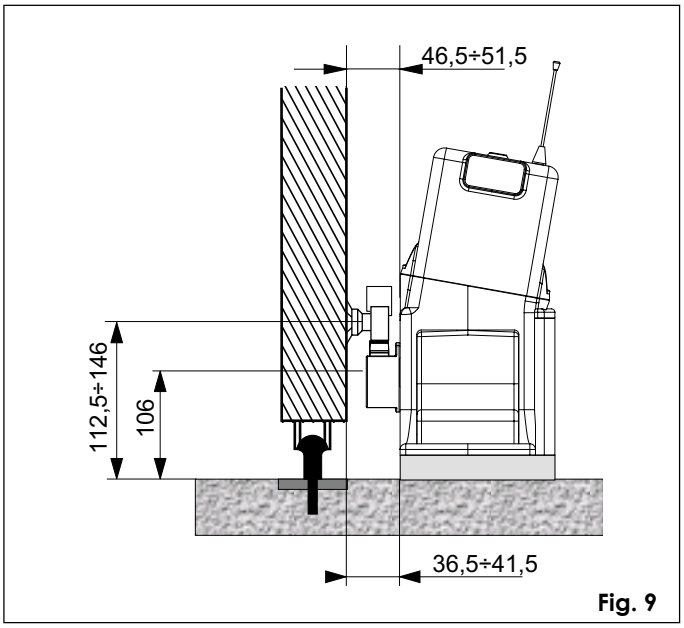


Fig. 9

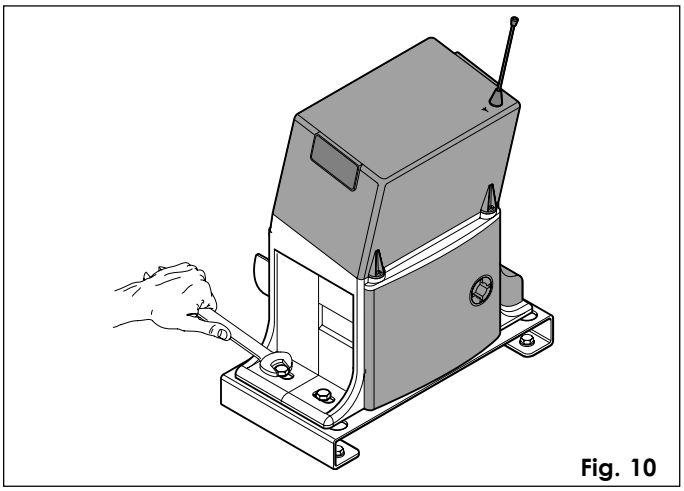


Fig. 10

4.4. INSTALLING THE RACK

4.4.1. STEEL RACK TO BE WELDED (Fig. 11)

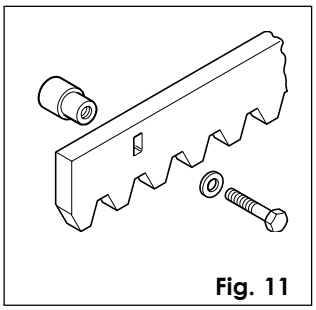


Fig. 11

1) Place the three threaded pawls on the rack element, positioning them at the top of the slot. In this way, the slot play will enable any adjustments to be made.
2) Manually take the leaf into its closing position.
3) Lay the first piece of rack at appropriate level on the pinion and weld the threaded pawl on the gate as shown in figure 14.
4) Move the gate manually, checking if the rack is resting on the pinion, and weld the second and third pawl.
5) Bring another rack element near to the previous one, using a piece of rack (as shown in figure 15) to synchronise the teeth of the two elements.
6) Move the gate manually and weld the three threaded pawls, so proceeding until the gate is fully covered.

4.4.2. STEEL RACK TO BE SCREWED (Fig.12)

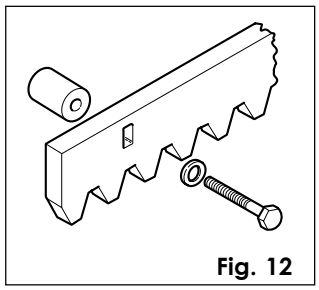


Fig. 12

1) Manually take the leaf into its closing position.
2) Lay the first piece of rack at the appropriate level on the pinion and place the spacer between rack and gate, positioning it at the top of the slot.
3) Mark the hole position on the gate. Drill a Ø 6.5 mm hole and thread with a Ø 8 mm tap.
   Screw the bolt.
4) Move the gate manually, checking if the rack is resting on the pinion, and repeat the operations at point 3.
5) Bring another rack element near to the previous one, using a piece of rack (as shown in figure 15) to synchronise the teeth of the two elements.
6) Move the gate manually and carry out the securing operations as for the first element, proceeding until the gate is fully covered.

4.4.3. NYLON RACK TO BE SCREWED (Fig.13)

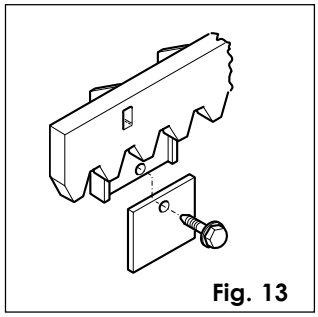


Fig. 13

1) Manually take the leaf into its closing position.
2) Lay on the pinion the first piece of rack at the appropriate level and mark the hole position on the gate; make a hole with a 4 mm bit and screw the 6x20 mm self-tapping screw with reinforcing plate.
3) Move the gate manually, checking if the rack is resting on the pinion, and repeat the operations at point 2.
4) Bring another rack element near to the previous one, using a piece of rack (as shown in figure 15) to synchronise the teeth of the two elements.
5) Move the gate manually and carry out the securing operations as for the first element, proceeding until the gate is fully covered.

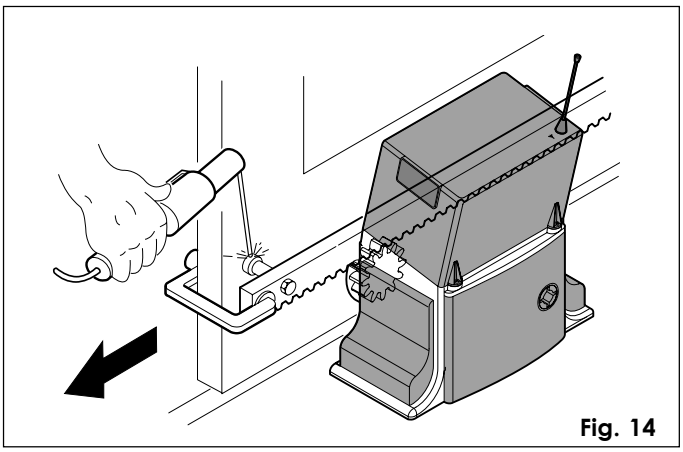


Fig. 14

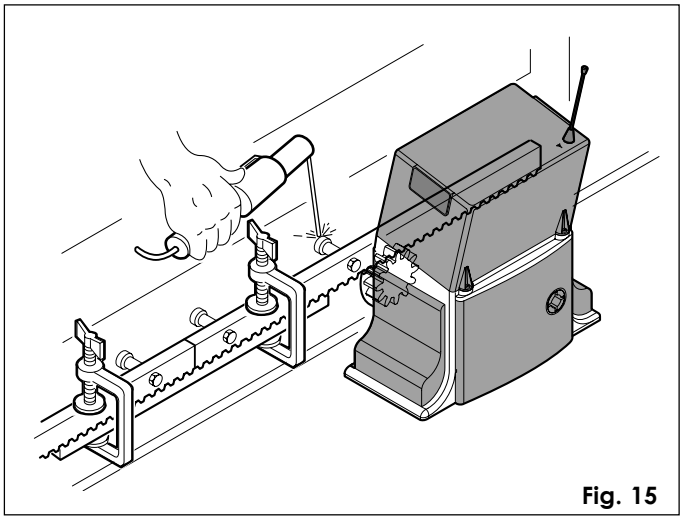


Fig. 15

Notes on rack installation

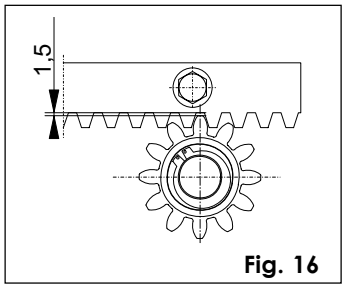


Fig. 16

- Make sure that, during the gate travel, all the rack elements mesh correctly with the pinion.
- Do not, on any account, weld the rack elements either to the spacers or to each other.
- When you have finished installing the rack, adjust the distance between the pinion teeth and the rack groove, checking if the distance is 1.5 mm (Fig. 16) along the entire travel, using the rack slots.
- Manually check if the gate habitually reaches the travel limit mechanical stops and make sure that there is no friction during gate travel.
- Do not use grease or other lubricants between rack and pinion.

4.5. POSITION THE TRAVEL LIMIT MAGNETS

The Step operator is supplied with a sensor which, by detecting the transit of two magnets secured to the top of the rack, commands gate movement to stop. Procedure for correct positioning of the two supplied magnets:

- Assemble the magnets according to the type of rack used, as shown in points 1,2 and 3 below.

1) Galvanised rack 30x6 module 4 (Fig. 17 ref. ①)
2) Galvanised rack 30x12 module 4 (Fig. 17 ref. ②)
3) Reinforced nylon rack 30x20 module 4 (Fig. 17 ref. ③)

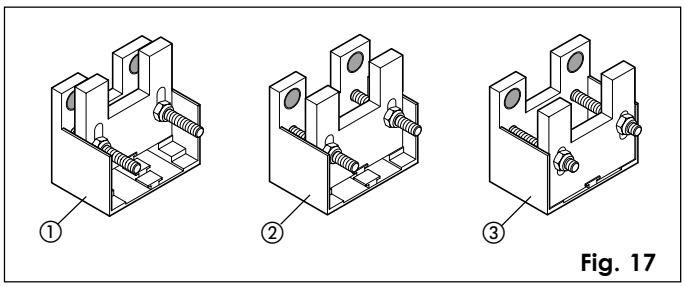


Fig. 17

- Position the magnets on the rack as shown in figure 18.

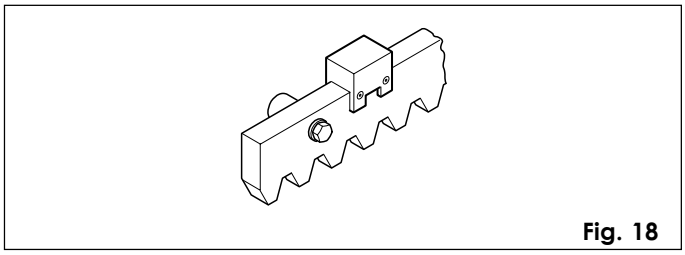


Fig. 18

- Power up the control board and enter the inputs status function (chpt.10)
- Manually take the gate to opening position, but allow a space of 2 cm from the travel limit mechanical stop position.
- Slide the magnet on the rack (Fig. 19) until you see that LED1 on the control board goes off.
  Tighten the magnet's securing screws.

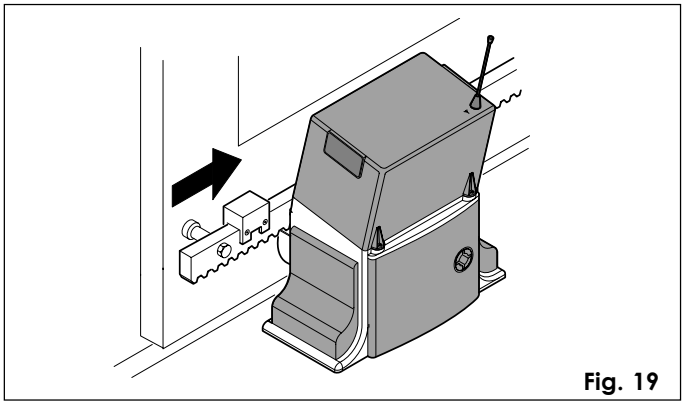


Fig. 19

- Manually take the gate to closing position, but allow a space of 2 cm from the travel limit mechanical stop position.
- Slide the magnet on the rack (Fig. 20) until you see that LED1 on the control board goes off.
  Tighten the magnet's securing screws.
- Re-lock the operator.

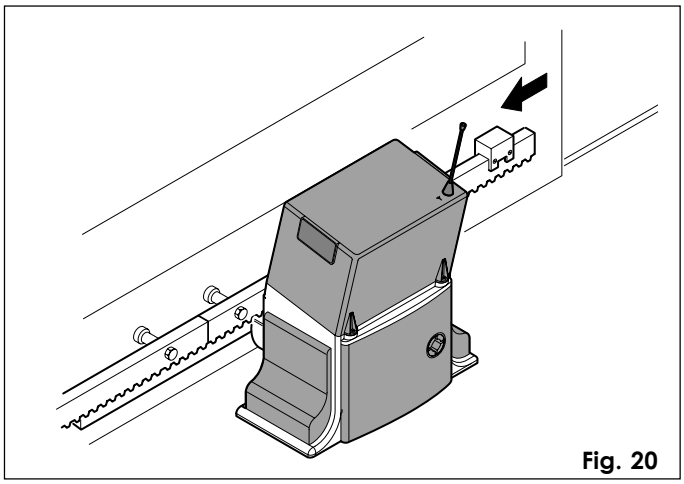


Fig. 20

CONTROL BOARD

5. WARNINGS

Important: Before attempting any job on the control board (connections, maintenance), cut out power supply and the battery.
- Install, upstream of the system, a differential thermal breaker with adequate tripping threshold.
- Always separate 230VAC power cable from control and safety cables (push-buttons receiver, photocells, etc.). To avoid any electrical noise, use separate sheaths or a shielded cable (with earthed shield).

6. LAY-OUT OF CONTROL BOARD COMPONENTS

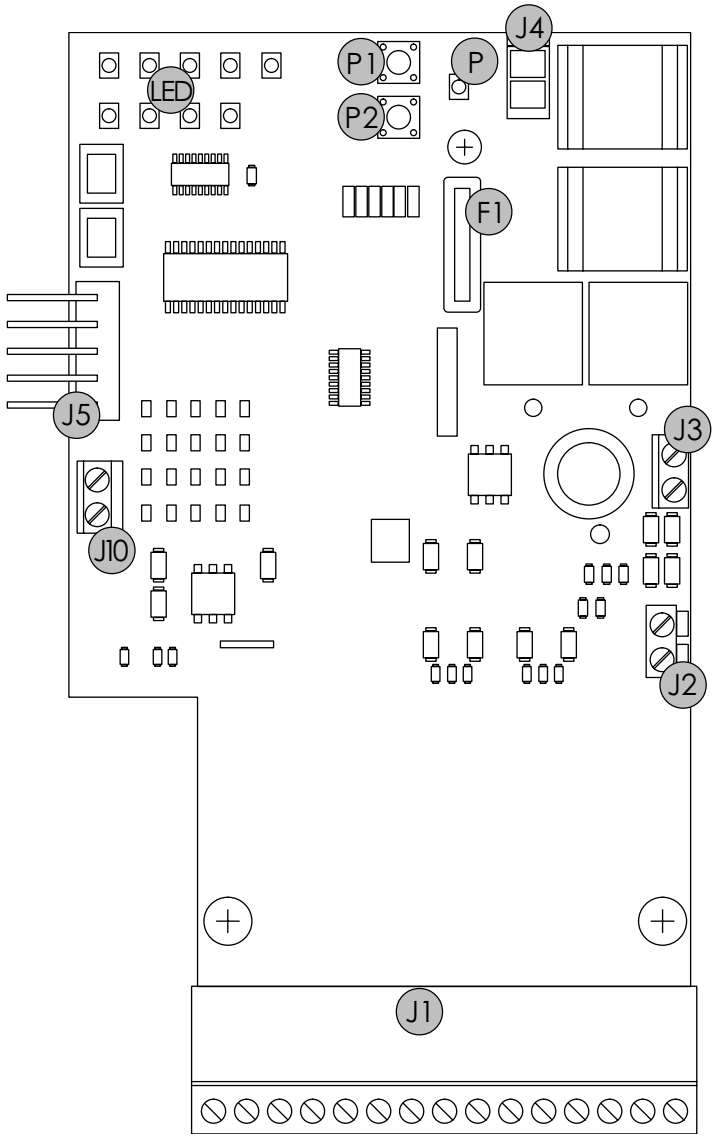


Fig. 21

LED	Programming LEDs
P	Power ON and diagnostics LED
P1	"Function" programming push-button
P2	"Value" programming push-button
F1	Battery and motor fuse - F20A
J1	Accessories Terminal board
J2	Transformer Terminal board
J3	Motor connection Terminal board
J4	Battery connector
J5	Minidec connector/RP Receiver
J10	Sensor Terminal board

7. CONTROL BOARD TECHNICAL SPECIFICATIONS

Power supply	12Vac
Batteries	Hermetic Pb 12Vdc 1.2Ah - dimensions 96x46x50
Transformer characteristics	Primary 230 Vac - Secondary 12 Vac - 16VA
Absorbed power	16 VA
Motor max current	15A
Operating ambient temperature	-20° +55°
Protection fuses	N° 1 (see fig. 21)
Anti-crushing function	Encoder / Current control
Accessories max. load at 24 Vdc	150 mA
Rapid connector max load	50 mA
Function logics	Automatic / "Stepped" automatic / Safety device / Semi-automatic
Opening/closing time	By self-learning
Pause time	Programmable: 5, 10, 20, 30 sec.
Partial opening width	90, 120, 150, 180 cm.
Speed	Selectable on 4 levels
Static force adjustment	Selectable on 4 levels
Deceleration	Electronic
Terminal board inputs	Open - Partially Open - Stop - Safety devices at opng. - Safety devices at clsng. - Sensor
Terminal board outputs	Motor - Flashing lamp - indicator-light - Accessories 24 Vdc - 12 Vdc power supply
Connectors	Minidec cards - RP cards - Battery
Programmable functions	Logic - pause time - partial opening width - anti-crushing force - operator speed

8. ELECTRICAL CONNECTIONS

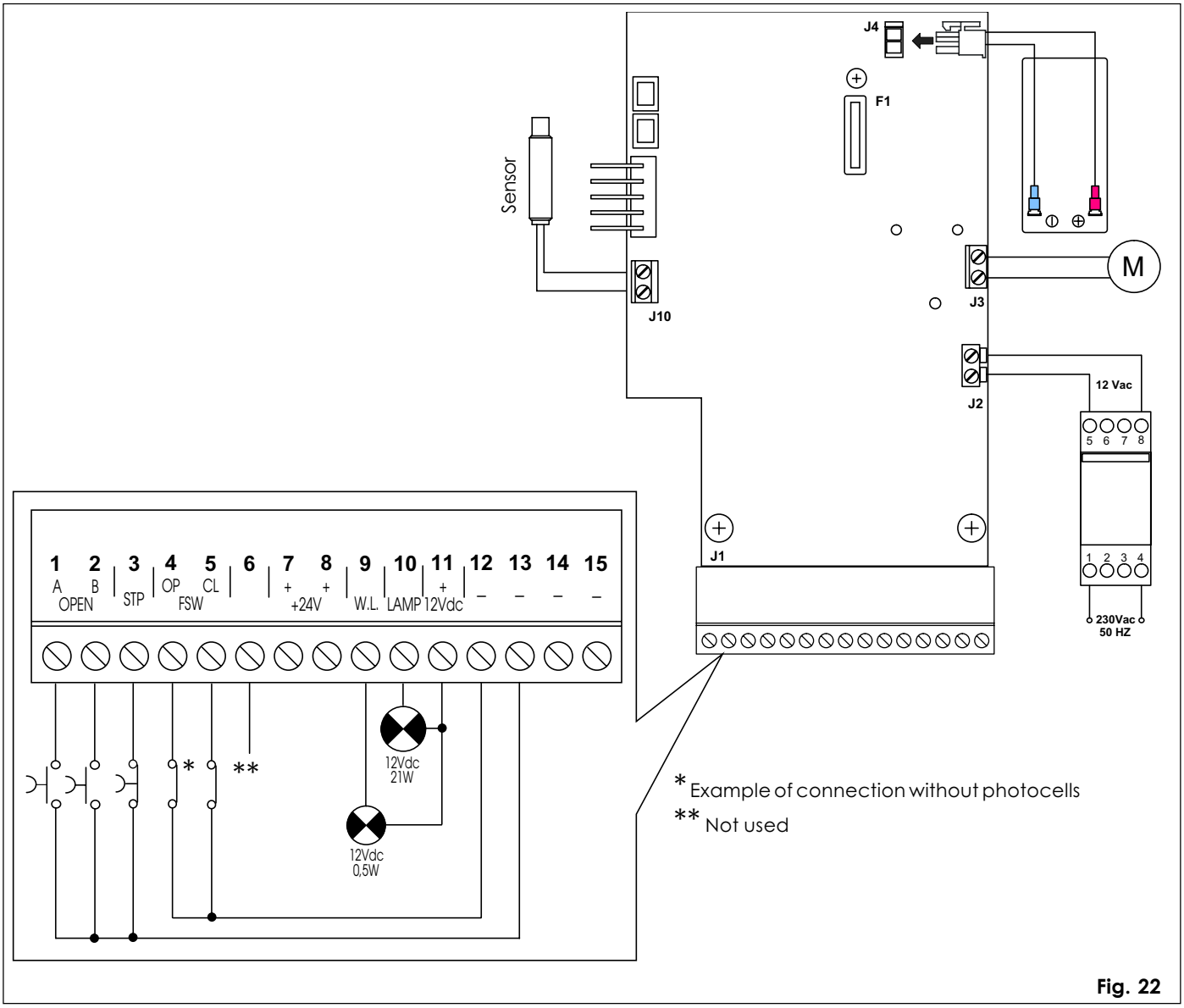


Fig. 22

8.1. Connection of photocells and safety devices

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

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

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

Application examples

Commonly used wiring lay-outs:

Connection of no safety device

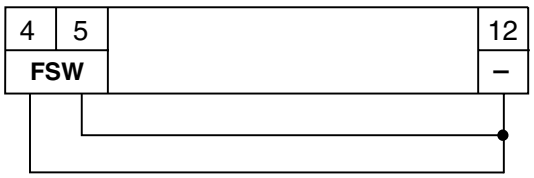


Fig. 23

Connection of a safety device for closing and a safety device for opening

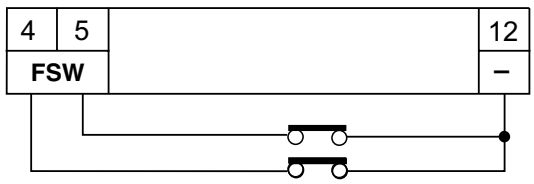


Fig. 24

Connection of 1 pair of photocells for opening

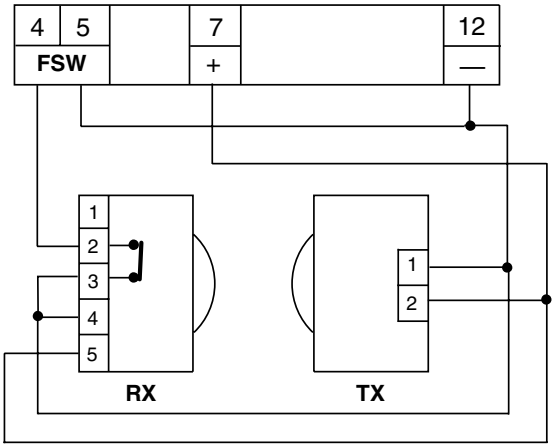


Fig. 25

Connection of 1 pair of photocells for closing

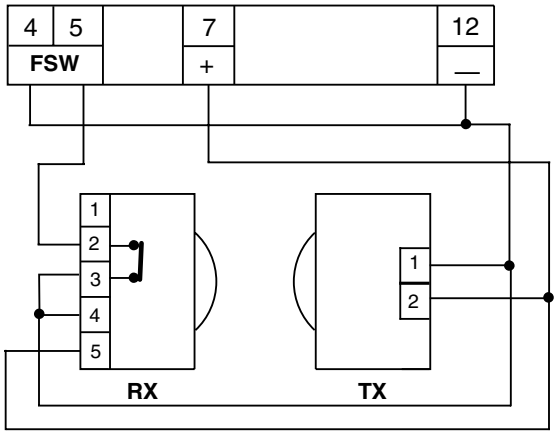


Fig. 26

Connection of a pair of photocells, one for opening and the other for closing

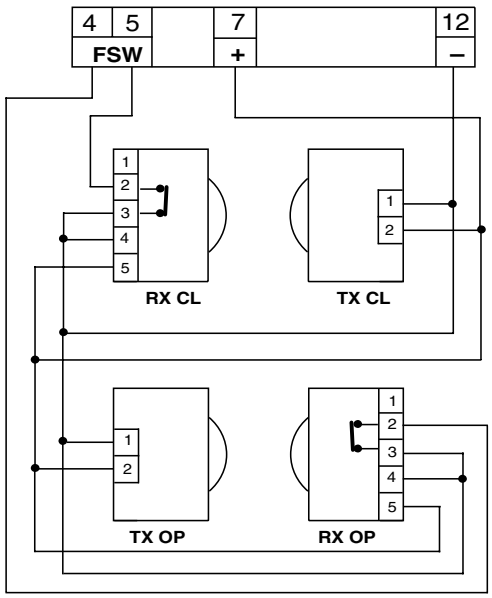


Fig. 27

Connection of 2 pairs of photocells for closing

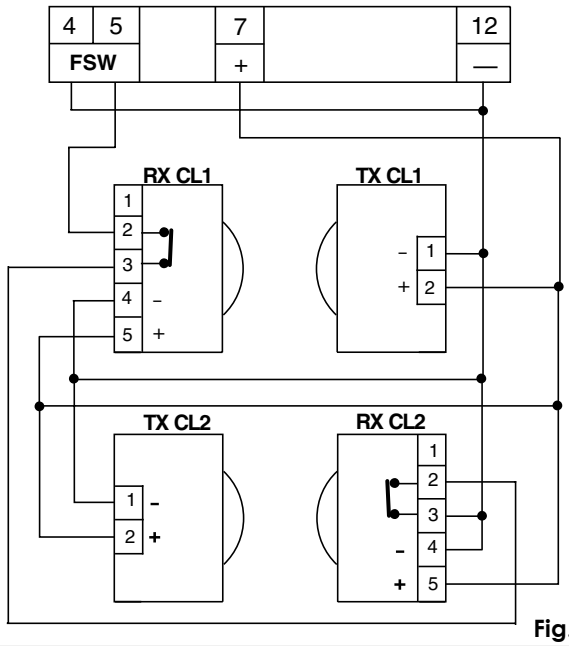


Fig. 28

Connection of 2 pairs of closing photocells and 1 pair of opening photocells.

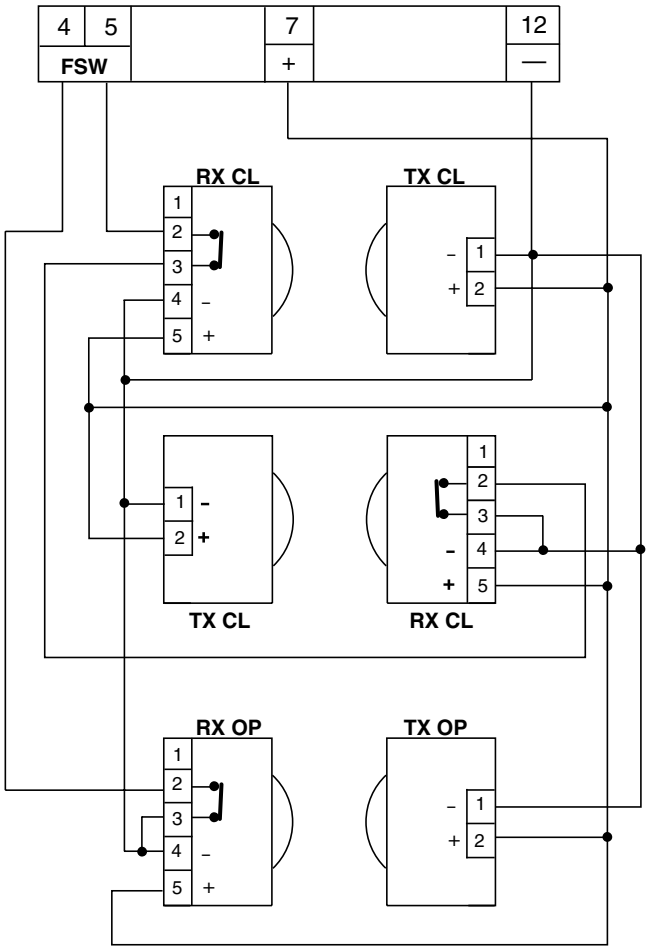


Fig. 29

Connection of 2 N.C. contacts in series (E.g. Photocells, Stop)

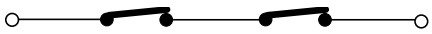


Fig. 30

Connection of 2 N.O. contacts in parallel (E.g. Open A, Open B)

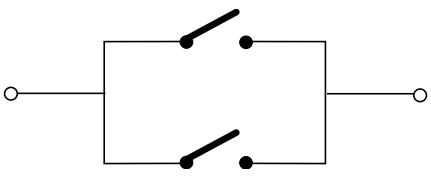


Fig. 31

8.2. J1 TERMINAL BOARD - ACCESSORIES (FIG. 22)

Low voltage terminal board used for connecting all accessories.

24 Vdc

- **– Negative for powering accessories (terminals 12,13,14,15)**
- **+ Positive for powering accessories + 24 Vdc (terminals 7 and 8)**

Important: The maximum load of the accessories powered at 24 Vdc is 150 mA. **When the automated system is idle, the accessories are not powered.** To calculate absorption values, refer to the instructions for individual accessories.

OPEN A - "TOTAL OPENING" (terminal 1) OPEN command: any device (e.g.: push-button) which, by closing a contact, supplies an opening or closing pulse to the gate.
To install several opening pulse generators, connect the N.O. contacts in parallel (see fig.31).

OPEN B -"PARTIAL OPENING" (terminal 2) OPEN command: any device (e.g.: push-button) which, by closing a contact, supplies a pulse for partial opening and/or closing of the gate.
To install several opening pulse generators, connect the N.O. contacts in parallel (fig.31).

STP - STOP Command (terminal 3): any device (e.g.: push-button) which, by opening a contact, stops gate movement.
To install several stop devices, connect the N.C. contacts in series (fig. 30).
NB.: If STOP devices are not connected, jumper connect the inputs **STP** and **-**.

FSW

All devices (photocells, sensitive edges, magnetic loops) with **N.C.** (normally closed) contact, which, if there is an obstacle in the area they protect, operate to interrupt gate movement.

FSW OP. - Opening safety devices contact (terminal 4): during opening, the safety devices reverse motion to closing. They do not operate during closing.
If the **Opening safety devices** are tripped when the gate is closed, they prevent the gate opening movement.
NB.: If no opening safety devices are connected, jumper connect inputs OP and - (fig. 23).
The opening safety devices protect the area behind the gate.

FSW CL. - Closing safety devices contact (terminal 5): during closing, the safety devices reverse motion to opening. They do not operate during opening .
If the **Closing safety devices** are tripped when the gate is open, they prevent the closing movement.
NB.: If no closing safety devices are connected, jumper connect inputs CL and - (fig. 23).
The closing safety devices protect the area affected by the movement of the gate as it closes.

W. LIGHT - (terminals 9 and 11): Power supply for the indicator-light, 12 Vdc 0.5 W max. (terminals 9 and 11). To avoid compromising correct operation of the system, **do not exceed** the indicated power. For instructions on operation of the indicator- light, consult table 3.

LAMP - (terminals 10 and 11): Flashing lamp output, 12 Vdc 21 W. BA15S lamp. To avoid compromising correct operation of the system, **do not exceed** the indicated power.

8.3. J2 Terminal board

It is used for connecting the transformer (optional), 12 Vac 16 VA. Fit the transformer support as shown in figure 36. Place the transformer in its compartment, as shown in figure 37, and make the connection as shown in figure 22. Alternatively, the transformer can be remotely located up to a distance of 100 mt from the equipment, using wires with a diameter of 0.5 mm^2.

8.4. J3 Terminal board - Motor Connection

This terminal board is used for connecting the motor (see fig. 22) . For the colour of the wires, refer to fig.32 (right closing) and to fig. 33 (left closing).

8.5. J4 Connector - Battery connection

Connect the operator battery (Fig. 22) to this connector. The battery is housed as shown in figure 37.
N.B.: The batteries are not supplied fully charged; however, the charge is sufficient for programming and setting-up the system.

8.6. J5 Connector - Quick-fit for Minidec and Rp - 12 Vdc

This is used for rapid connection of the Minidec cards and RP receivers.
IMPORTANT: do not use Decoder cards on the quick-fit connection.
In case of a mains power cut, this connector is powered for twelve hours - after this time, the opening push-buttons (terminals 1 and 2) are the only active commands.
The connector is powered down to store sufficient energy for running some emergency manoeuvres in the space of 30 days.

8.7. J10 Terminal board - Connection of travel limit sensor

It is used for connecting the travel limit detection sensor.

Tab. 3

Gate status	Indicator-light status
Closed	Light Off
Open - Open in pause	Lighted
Closing	Flashing
Opening	Lighted
Blocked	Lighted

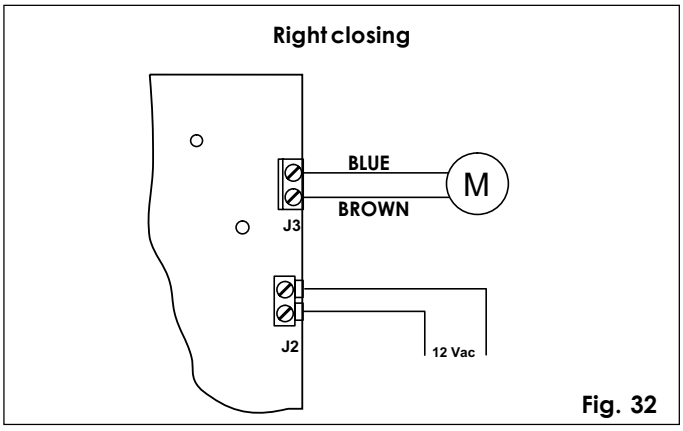


Fig. 32

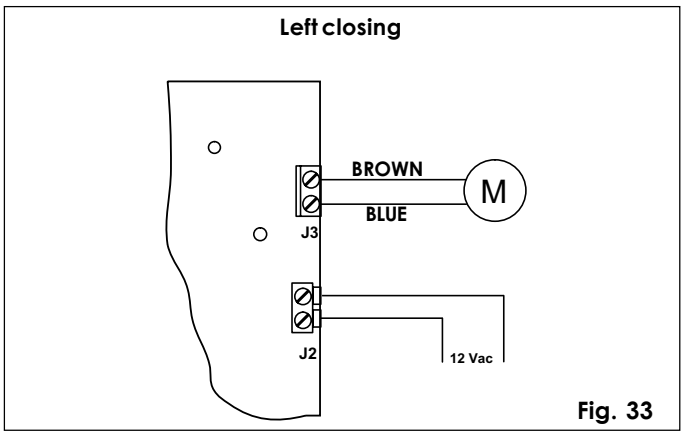


Fig. 33

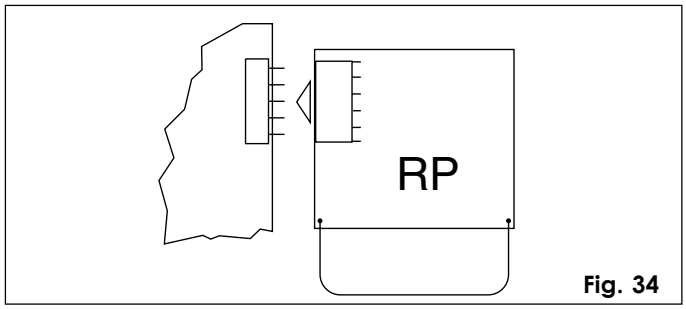


Fig. 34

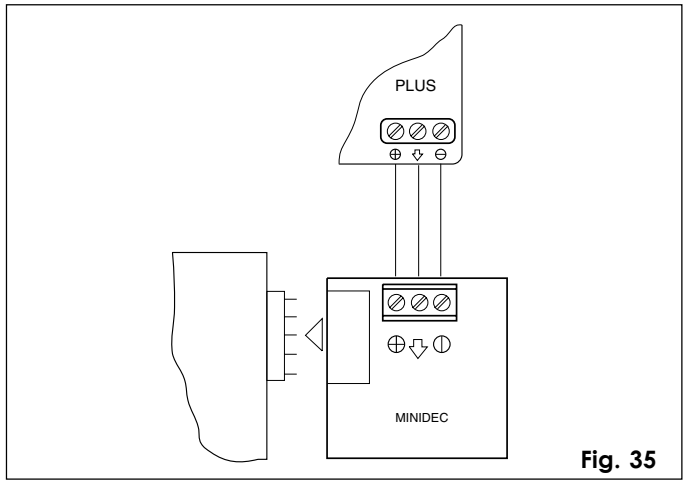


Fig. 35

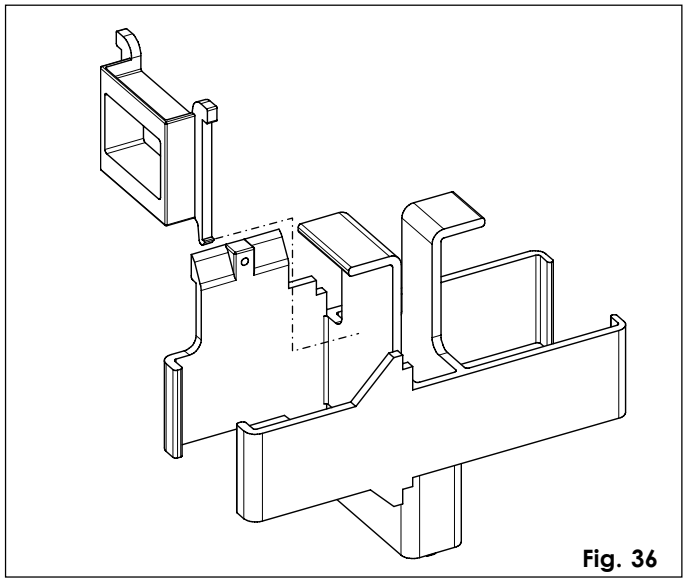


Fig. 36

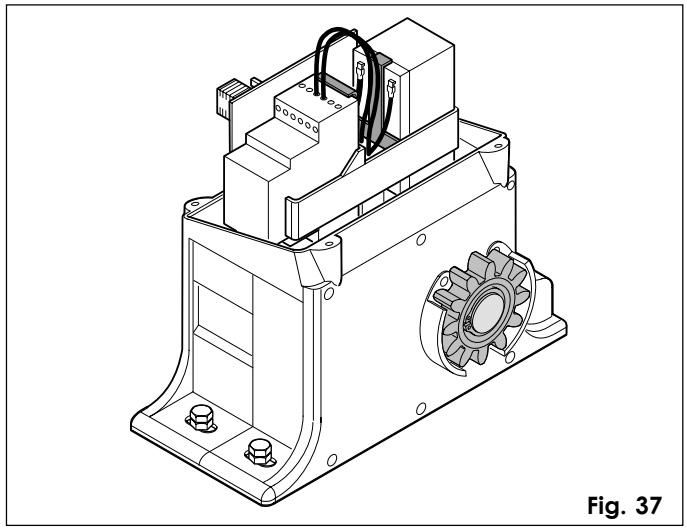


Fig. 37

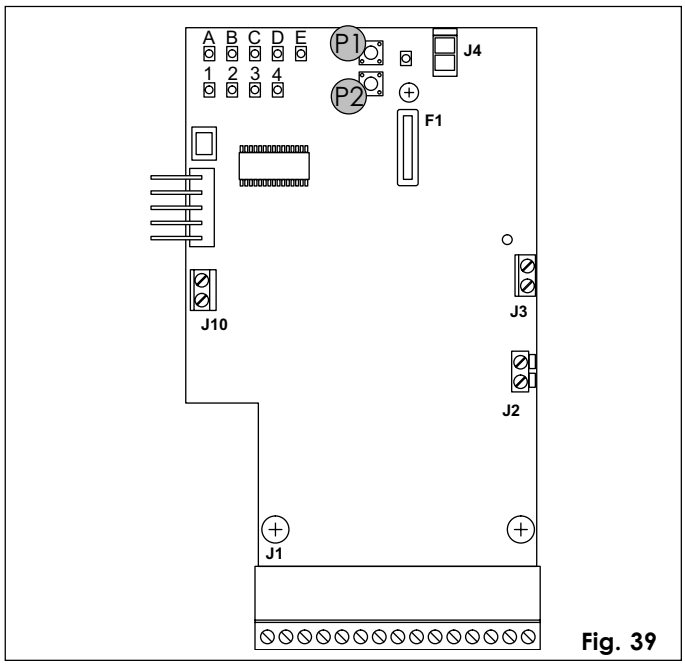


Fig. 39

9. Diagnostics

The "P" LED (see fig.21) has a diagnostics function. The LED has 4 statuses:
- Steady light: mains power ON and battery charged.
- Slow flashing (lights every second) : no mains power but battery charged.
- Rapid flashing (lights every 250 msec): power ON but battery discharged.
- Light OFF: no mains power supplied and battery discharged

10. Inputs status

The equipment has a function for checking the status of the terminal board inputs.
How to access this function:
In the "all LEDs off status" (both lettered and numbered), press push-button P2; the statuses of the inputs as shown in table 4, will be shown in the lettered and numberedLEDs columns.

Table 4

Led	ON	OFF
A = Open A	Command active	Command inactive
B = Open B	Command active	Command inactive
C = Stop	Command inactive	Command active
D = Fsw op	Safety devices disengaged	Safety devices engaged
E = Fsw cl	Safety devices disengaged	Safety devices engaged
1 = Sensor	Sensor disengaged	Sensor engaged

At the end of the checks, press push-button P2 again to exit the inputs status function.

N.B.: The LED status check function remains active for 5 minutes after which the board returns to the "All LEDs OFF" status.

IMPORTANT: When the inputs status function is accessed, the accessories are all powered even if the gate is idle. The P1 push-button is active and can be used as Open A.

11. PROGRAMMING

To access the "PROGRAMMING" mode, press push-buttons P1 and P2 (fig. 39). The 5 programming functions are indicated by LEDs with letters, whereas the modifiable values are indicated by numbered LEDs.

Push-button P1 is used to select the function to be programmed.

Push-button P2 is used to modify the value of the selected function.
-If you press push-button P1, LED A lights up; use push-button P2 to select the required logic as shown in table 5.
-If you press push-button P1 again, LED B lights up; use push-button P2 to select the required pause times (for logics A, AP and S only) as shown in table 5.
-If you press push-button P1 again, LED C lights up; use push-button P2 to select the required partial opening width as shown in table 5.
-If you press push-button P1 again, LED D lights up; use push-button P2 to select the static force of the operators as shown in table 5.
-If you press push-button P1 again, LED E lights up; use push-button P2 to select the speed of the operators as shown in table 5.
-If you press push-button P1 again, the five LEDs light up steadily to indicate access to the learning function.

• Automatic learning

By using just one command, this procedure enables self-learning of work times and decelerations. Check if the gate is closed.
While the 5 LEDs are lighted steadily, briefly press (about 1 second) the P2 push-button - the gate starts the opening manoeuvre, and the function LEDs begin flashing; wait for the gate to reach the opening sensor. The learning procedure has finished.
Press push-button P1 to exit programming.

Table 5

Programming	
Function LED	**Function**
A	Function logic (see tables 6/a, 6/b, 6/c and 6/d) 1 = A (automatic) 2 = S (safety) 3 = AP (stepped automatic) 4 = EP (stepped semi-automatic)
B	Pause times 1 = 5 seconds 2 = 10 seconds 3 = 20 seconds 4 = 30 seconds
C	Partial opening width 1 = 90 cm. 2 = 120 cm. 3 = 150 cm. 4 = 180 cm.
D	Static force 1 = low 2 = medium low 3 = medium high 4 = high
E	Speed 1 = low 2 = medium low 3 = medium high 4 = high

N.B.: The equipment remains in programming status for 5 minutes; if no push-button is pressed after this time elapses, the board returns to the all LEDs OFF status.

12. AUTOMATION TEST

When installation has been completed, run a careful functional check of the automated system and all accessories connected to it, especially the safety devices. Hand the "User's guide" page to the Customer, and explain correct operation and use of the gearmotor.

13. MANUAL OPERATION

If the gate has to be moved manually due to a fault of the automated system, use the release device as follows:

- Open the protective door with a coin.
- Take the supplied key located inside the door, fit it in the release system and turn it clockwise until it reaches the mechanical stop (fig. 40).
- Open or close the gate manually.

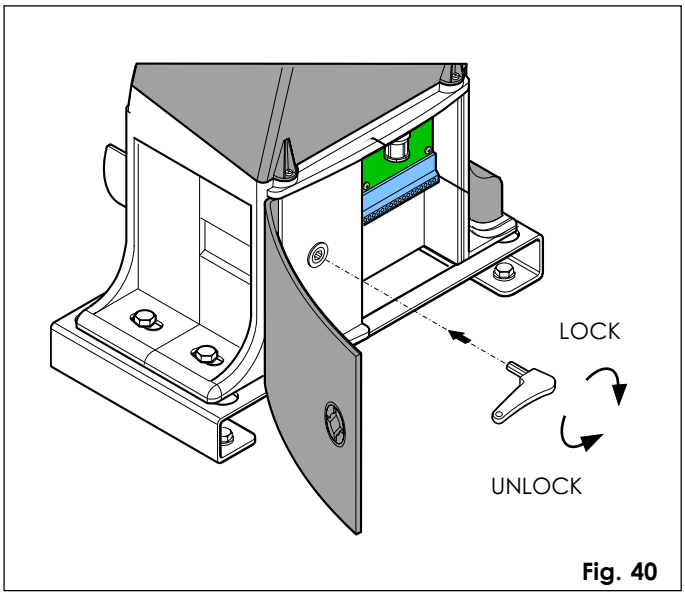


Fig. 40

14. RESTORING NORMAL OPERATION MODE

- Manually take the gate back to its closed position.
- Turn the release key anti-clockwise.
- Remove the release key and put it back in its place; close the protective door.
- Move the gate until the release meshes.

15. MAINTENANCE

Carry out the following jobs at least every six months:
- Check if the anti-crushing device is correctly adjusted.
- Check the efficiency of the release system.
- Check the efficiency of safety devices and accessories.

16. REPAIRS

For any repairs, contact the authorised Repair Centres.

Table 6/a

LOGIC "A"	PULSES				
GATE STATUS	**OPEN-A**	**OPEN B**	**STOP**	**OPENING SAFETY DEVICES**	**CLOSING SAFETY DEVICES**
CLOSED	Opens the leaf and closes it after pause time		No effect (OPEN disabled)		No effect
OPEN on PAUSE	Re-loads pause time		Stops operation	No effect	Re-loads pause time
AT CLOSING	Re-opens the leaf immediately			No effect	Immediately reverses to open
AT OPENING	No effect			Immediately reverses to close	No effect
LOCKED	Closes the leaf		No effect	No effect	No effect (OPEN disabled)

Table 6/b

LOGIC "S"	PULSES				
GATE STATUS	**OPEN-A**	**OPEN B**	**STOP**	**OPENING SAFETY DEVICES**	**CLOSING SAFETY DEVICES**
CLOSED	Opens the leaf and closes it after pause time		No effect (OPEN disabled)		No effect
OPEN on PAUSE	Re-closes the leaf immediately		Stops operation	No effect	Closes after 5" (OPEN disabled) on release
AT CLOSING	Re-opens the leaf immediately			No effect	Immediately reverses to open
AT OPENING	Re-closes the leaf immediately			Immediately reverses to close	No effect
LOCKED	Closes the leaf		No effect	No effect	No effect (OPEN disabled)

Table 6/c

LOGIC "AP"	PULSES				
GATE STATUS	**OPEN-A**	**OPEN B**	**STOP**	**OPENING SAFETY DEVICES**	**CLOSING SAFETY DEVICES**
CLOSED	Opens the leaf and closes it after pause time		No effect (OPEN disabled)		No effect
OPEN on PAUSE	Stops operation		Stops operation	No effect	Re-loads pause time
AT CLOSING	Re-opens the leaf immediately			No effect	Immediately reverses to open
AT OPENING	Stops operation			Immediately reverses to close	No effect
LOCKED	Closes the leaf		No effect	No effect	No effect (OPEN disabled)

Table 6/d

LOGIC "EP"	PULSES				
GATE STATUS	**OPEN-A**	**OPEN B**	**STOP**	**OPENING SAFETY DEVICES**	**CLOSING SAFETY DEVICES**
CLOSED	Opens the leaf		No effect (OPEN disabled)		No effect
OPEN	Re-closes the leaf immediately		Stops operation	No effect	No effect (OPEN disabled)
AT CLOSING	Stops operation				Immediately reverses to open
AT OPENING	Stops operation			Immediately reverses to close	No effect
LOCKED	Restarts moving in reverse direction		No effect (OPEN disabled)	No effect (if it must open, it disables OPEN)	No effect (OPEN disabled)

DICHIARAZIONE CE DI CONFORMITÁ PER MACCHINE

(DIRETTIVA 89/392 CEE, ALLEGATO II, PARTE B)

Fabbricante: GENIUS s.r.l.

Indirizzo: Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO - ITALIA

Dichiara che: L'Attuatore mod. STEP

- è costruito per essere incorporato in una macchina o per essere assemblato con altri macchinari per costituire una macchina ai sensi della Direttiva 89/392/CEE, e successive modifiche 91/368/CEE, 93/44/CEE, 93/68/CEE;
- è conforme ai requisiti essenziali di sicurezza delle seguenti altre direttive CEE:

  73/23/CEE e successiva modifica 93/68/CEE.
  89/336 CEE e successiva modifica 92/31/CEE e 93/68/CEE

e inoltre dichiara che non è consentito mettere in servizio il macchinario fino a che la macchina in cui sarà incorporata o di cui diverrà componente sia stata identificata e ne sia stata dichiarata la conformità alle condizioni della Direttiva 89/392/CEE e successive modifiche trasposta nella legislazione nazionale dal DPR n° 459 del 24 Luglio 1996.

Grassobbio, 1 Marzo 2002

L'Amministratore Delegato
D. Gianantoni

EC MACHINE DIRECTIVE COMPLIANCE DECLARATION

(DIRECTIVE 89/392 EEC, APPENDIX II, PART B)

Manufacturer: GENIUS s.r.l.

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

Hereby declares that: the STEP

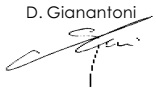
- is intended to be incorporated into machinery, or to be assembled with other machinery to constitute machinery in compliance with the requirements of Directive 89/392 EEC, and subsequent amendments 91/368 EEC, 93/44 EEC and 93/68 EEC;
- complies with the essential safety requirements in the following EEC Directives:

  73/23 EEC and subsequent amendment 93/68 EEC.
  89/336 EEC and subsequent amendments 92/31 EEC and 93/68 EEC.

and furthermore declares that unit must not be put into service until the machinery into which it is incorporated or of which it is a component has been identified and declared to be in conformity with the provisions of Directive 89/392 ECC and subsequent amendments enacted by the national implementing legislation.

Grassobbio, 1 March 2002

Managing Director
D. Gianantoni



DÉCLARATION CE DE CONFORMITÉ

(DIRECTIVE EUROPÉENNE "MACHINES" 89/392/CEE, ANNEXE II, PARTIE B)

Fabricant: GENIUS s.r.l.

Adresse: Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO - ITALIE

Déclare d'une part

que l'automatisme mod. STEP

- est prévue soit pour être incorporée dans une machine, soit pour être assemblée avec d'autres composants ou parties en vue de former une machine selon la directive européenne "machines" 89/392 CEE, modifiée 91/368 CEE, 93/44 CEE, 93/68 CEE.
- satisfait les exigences essentielles de sécurité des directives CEE suivantes:

  73/23 CEE, modifiée 93/68 CEE.
  89/336 CEE, modifiée 92/31 CEE et 93/68 CEE.

et d'autre part

qu'il est formellement interdit de mettre en fonction l'automatisme en question avant que la machine dans laquelle il sera intégrée ou dont il constituera un composant ait été identifiée et déclarée conforme aux exigences essentielles de la directive européenne "machines" 89/392/CEE, et décrets de transposition de la directive.

Grassobbio, le 1 Mars 2002

L'Administrateur Délégué
D. Gianantoni

DECLARACIÓN DE CONFORMIDAD CE PARA MÁQUINAS

(DIRECTIVA 89/392 CEE, ANEXO II, PARTE B)

Fabricante: GENIUS s.r.l.

Dirección: Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO - ITALIA

Declara que: El equipo automático mod. STEP

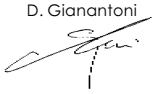
- Ha sido construido para ser incorporado en una máquina, o para ser ensamblado con otros mecanismos a fin de constituir una máquina con arreglo a la Directiva 89/392 CEE y a sus sucesivas modificaciones 91/368 CEE, 93/44 CEE y 93/68 CEE.
- Cumple los requisitos esenciales de seguridad establecidos por las siguientes directivas CEE:

  73/23 CEE y sucesiva modificación 93/68 CEE,
  89/336 CEE y sucesivas modificaciones 92/31 CEE y 93/68 CEE.

Asimismo, declara que no está permitido poner en marcha el equipo si la máquina en la cual será incorporado, o de la cual se convertirá en un componente, no ha sido identificada o no ha sido declarada su conformidad a lo establecido por la Directiva 89/392 CEE y sus sucesivas modificaciones, y a la ley que la incorpora en la legislación nacional.

Grassobbio, 1° de Marzo de 2002.

Administrador Delegado
D. Gianantoni



EG-KONFORMITÄTSERKLÄRUNG ZU MASCHINEN

(gemäß EG-Richtlinie 89/392/EWG, Anhang II, Teil B)

Hersteller: GENIUS s.r.l.

Adresse: Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO - ITALIEN

erklärt hiermit, daß: der Antrieb Mod. STEP

- zum Einbau in eine Maschine oder mit anderen Maschinen zu einer Maschine im Sinne der Richtlinie 89/392 EWG und deren Änderungen 91/368 EWG, 93/44 EWG, 93/68 EWG vorgesehen ist.
- den wesentlichen Sicherheitsbestimmungen folgender anderer EG-Richtlinien entspricht:

  73/23 EWG und nachträgliche Änderung 93/68 EWG
  89/336 EWG und nachträgliche Änderung 92/31 EWG sowie 93/68 EWG

und erklärt außerdem, daß die Inbetriebnahme solange untersagt ist, bis die Maschine, in welche diese Maschine eingebaut wird oder von der sie ein Bestandteil ist, den Bestimmungen der Richtlinie 89/392 EWG sowie deren nachträglichen Änderungen entspricht.

Grassobbio, 1 März 2002

Der Geschäftsführer
D. Gianantoni

CE VERKLARING VAN OVEREENSTEMMING VOOR MACHINES

(RICHTLIJN 89/392/EEG, BIJLAGE II, DEEL B)

Fabrikant: GENIUS s.r.l.

Adres: Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO - ITALIE

verklaart dat: de aandrijving mod. STEP

- is gebouwd voor opname in een machine of voor assemblage met andere machines, met het doel een machine te vormen in de zin van de Richtlijn 89/392/EEG en latere wijzigingen 91/368/EEG, 93/44/EEG, 93/68/EEG;
- in overeenstemming is met de fundamentele veiligheidseisen van de volgende EEG-richtlijnen:

  73/23/EEG en latere wijziging 93/68/EEG.
  89/336/EEG en latere wijziging 92/31/EEG en 93/68/EEG

en verklaart bovendien dat het niet is toegestaan de machine in bedrijf te stellen voordat de machine waarin zij wordt opgenomen of waarvan zij onderdeel wordt, geïdentificeerd is, en de overeenkomstigheid ervan verklaard is volgens de voorwaarden van de Richtlijn 89/392/EEG en latere wijzigingen, die in de nationale wetgeving zijn omgezet door het Presidentieel Besluit nr. 459 van 24 juli 1996.

Grassobbio, 1 Maart 2002

President - directeur
D. Gianantoni

GENIUS®

GENIUS s.r.l.
Via Padre Elzi, 32
24050 - Grassobbio
BERGAMO-ITALY
tel. 0039.035.4242511
fax. 0039.035.4242600
info@geniusg.com
www.geniusg.com

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