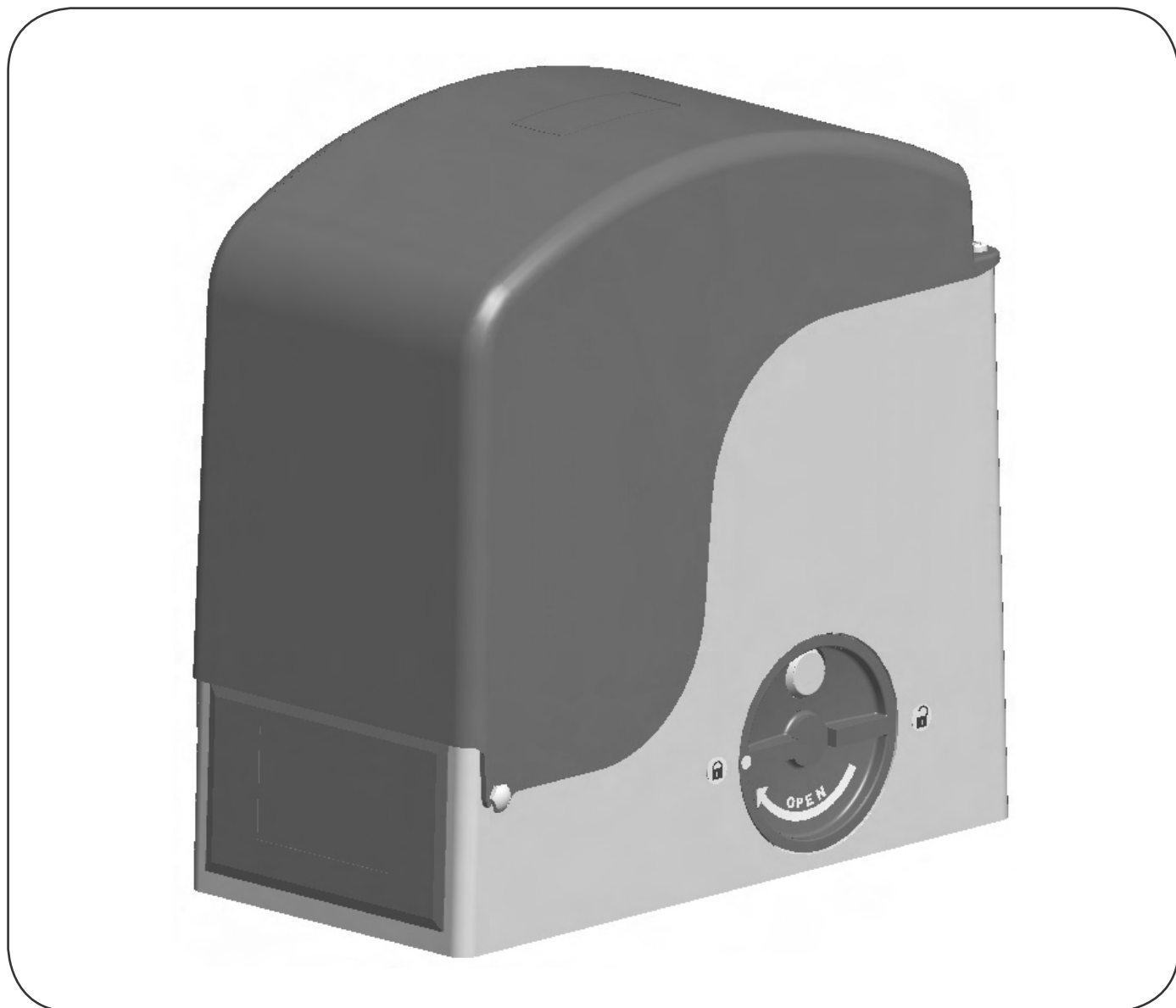


FALCON M



GENIUS®

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



ITALIANO

AVVERTENZE PER L'INSTALLATORE

OBLIGHI GENERALI PER LA SICUREZZA



ATTENZIONE! È importante per la sicurezza delle persone seguire attentamente tutta l'istruzione. Una errata installazione o un errato uso del prodotto può portare a gravi danni alle persone.

1. Leggere attentamente le istruzioni prima di iniziare l'installazione del prodotto.
2. I materiali dell'imballaggio (plastica, polistirolo, ecc.) non devono essere lasciati alla portata dei bambini in quanto potenziali fonti di pericolo.
3. Conservare le istruzioni per riferimenti futuri.
4. Questo prodotto è stato progettato e costruito esclusivamente per l'utilizzo indicato in questa documentazione. Qualsiasi altro utilizzo non espressamente indicato potrebbe pregiudicare l'integrità del prodotto e/o rappresentare fonte di pericolo.
5. GENIUS declina qualsiasi responsabilità derivata dall'uso improprio o diverso da quello per cui l'automatismo è destinato.
6. Non installare l'apparecchio in atmosfera esplosiva: la presenza di gas o fumi infiammabili costituisce un grave pericolo per la sicurezza.
7. Gli elementi costruttivi meccanici devono essere in accordo con quanto stabilito dalle Norme EN 12604 e EN 12605.
8. Per i Paesi extra-CEE, oltre ai riferimenti normativi nazionali, per ottenere un livello di sicurezza adeguato, devono essere seguite le Norme sopra riportate.
9. GENIUS non è responsabile dell'inosservanza della Buona Tecnica nella costruzione delle chiusure da motorizzare, nonché delle deformazioni che dovessero intervenire nell'utilizzo.
10. L'installazione deve essere effettuata nell'osservanza delle Norme EN 12453 e EN 12445. Il livello di sicurezza dell'automazione deve essere C+D.
11. Prima di effettuare qualsiasi intervento sull'impianto, togliere l'alimentazione elettrica e scollegare le batterie.
12. Prevedere sulla rete di alimentazione dell'automazione un interruttore onnipolare con distanza d'apertura dei contatti uguale o superiore a 3 mm. È consigliabile l'uso di un magnetotermico da 6A con interruzione onnipolare.
13. Verificare che a monte dell'impianto vi sia un interruttore differenziale con soglia da 0,03 A.
14. Verificare che l'impianto di terra sia realizzato a regola d'arte e collegarvi le parti metalliche della chiusura.
15. L'automazione dispone di una sicurezza intrinseca anti-schiacciamento costituita da un controllo di coppia. È comunque necessario verificarne la soglia di intervento secondo quanto previsto dalle Norme indicate al punto 10.
16. I dispositivi di sicurezza (norma EN 12978) permettono di proteggere eventuali aree di pericolo dai 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'installazione, 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 e deve rivolgersi solo ed esclusivamente a personale qualificato GENIUS o centri d'assistenza GENIUS.
26. 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. 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 in any way attempt to repair or to take direct action and must solely contact qualified GENIUS personnel or GENIUS service centres.
26. 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. Conservé 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 improprie 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 onnipolaire avec une distance d'ouverture des contacts égale ou supérieure à 3 mm. On recommande d'utiliser un magnétothermique de 6A avec interruption onnipolaire.
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 dotée 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'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.
26. 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 de embalaje (plástico, poliestireno, etc.) no deben dejarse al alcance de los niños, ya que constituyen fuentes potenciales de peligro.
3. Guardar las instrucciones para futuras consultas.

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CE DECLARATION OF CONFORMITY

Manufacturer: GENIUS S.p.A.

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

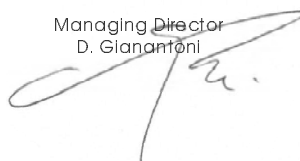
Declares that: Operator mod. **FALCON M**

- is built to be incorporated in a machine or to be assembled with other machinery to create a machine under the provisions of Directive 98/37/EC;
- conforms to the essential safety requirements of the other following EEC directives:
73/23/EEC and subsequent amendment 93/68/EEC.
89/336/EEC and subsequent amendment 92/31/EEC and 93/68/EEC

Furthermore, the manufacturer declares that the machinery must not be put into service until the machine into which it will be incorporated or of which it will become a part has been identified and its conformity to the conditions of Directive 98/37/EC has been declared.



Grassobbio, 10-11-2006

Managing Director
D. Gianantoni



Notes on reading the instruction

Read this installation manual to the full before you begin installing the product.

The symbol  indicates notes that are important for the safety of persons and for the good condition of the automated system.
The symbol  draws your attention to the notes on the characteristics and operation of the product.


FALCON AUTOMATED SYSTEM

These instructions apply to the following models:

FALCON 14 M - FALCON 14 MC - FALCON 20 M- FALCON 20 MC - FALCON 15 M - FALCON 15 MC - FALCON 20 M 3PH

The **FALCON** gearmotor for sliding gates is an electro-mechanical operator which transmits drive to the sliding leaf by a rack and pinion or by a chain suitably coupled to the gate.

The non-reversing system guarantees mechanical locking of the gate when the motor is not operating and, therefore, there is no need to install any lock.

 The gearmotor does not have a mechanical clutch and, therefore, requires a control unit with an adjustable electronic clutch which guarantees the necessary anti-crushing safety.

A handy manual release with a customised key makes the gate manoeuvrable in case of a power cut or trouble.

In the "C" version gearmotors, the electronic control unit is housed inside the operator.

 The **FALCON** gearmotor was designed and built for controlling vehicle access. Do not use in any different way.

1. DESCRIPTION AND TECHNICAL SPECIFICATIONS

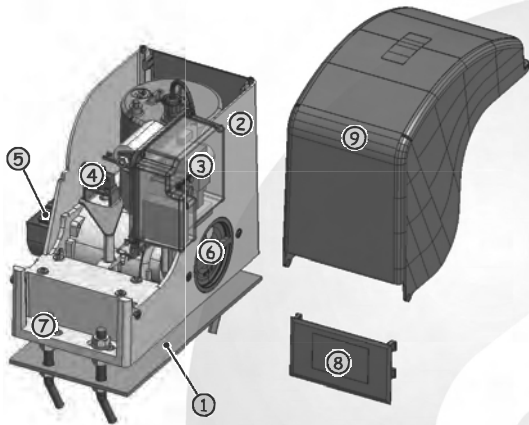


Fig. 1

- ① Foundation plate
- ② Gearmotor
- ③ Enclosure and control unit (In "C" versions only)
- ④ Magnetic sensor
- ⑤ Pinion
- ⑥ Release knob with key
- ⑦ Securing slots and nuts
- ⑧ Lateral protective devices
- ⑨ Covering housing

MODEL	14 M 14 MC	20 M 20 MC	15 M 15 MC	20 M 3Ph
Power supply (+6% -10%)	230 V~ 50 Hz		115 V~ 60 Hz	400 V~ 50Hz
Absorbed power (W)	650	800	710	840
Absorbed current (A)	2.8	3.5	6.7	2.2
Electric motor (rpm)	1400		1700	1400
Thrust capacitor (µF)	16	20	60	/
Thrust on pinion (daN)	110	150	130	185
Torque (Nm)	35	45	38	60
Temperature protection (°C)	140		/	
Max leaf weight (Kg)	1400	2000	1500	2000
Type of pinion gear	Z 16 module 4			
Gate speed (m/min)	10		11	10
Max. gate length (m)	20			
Type of travel-limit device	Magnetic			
Type of clutch	Electronic torque control (See control unit)			
Use frequency (see graph)	S3 - 40%		S3 50%	
Operating ambient temperature (°C)	-20 ÷ +55			
Weight of gearmotor (Kg)	14		15	
Protection class	IP 44			
Operator dimensions	See fig. 2			

2. DIMENSIONS

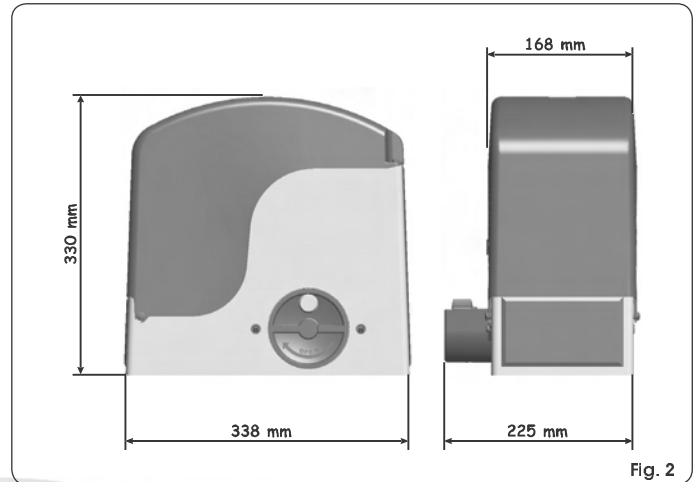


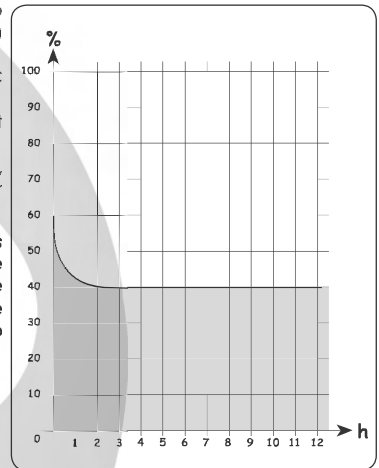
Fig. 2

3. MAXIMUM USE CURVE

The curve makes it possible to establish maximum work time (T) according to use frequency (F). With reference to standard IEC 34-1, the **FALCON** gearmotor, with service type S3, can operate at use frequency of 40%. To ensure efficient operation, operate in the work range under the curve.



Important: The curve is obtained at a temperature of 20°C. Exposure to the direct sun rays can reduce use frequency down to 20%.



Calculation of use frequency

The percentage of effective work time (opening + closing) compared to total time of cycle (opening + closing + pause times).

Calculation formula:

$$\% F = \frac{T_a + T_c}{T_a + T_c + T_p + T_i} \times 100$$

where:

T_a = opening time

T_c = closing time

T_p = pause time

T_i = interval time between one complete cycle and another

4. ELECTRONIC DEVICES (standard system)

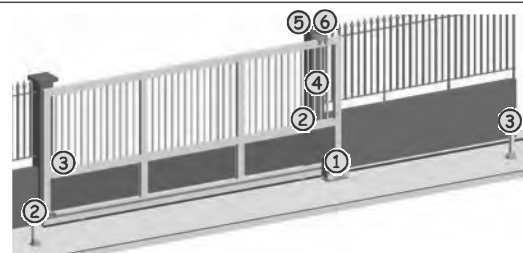


Fig. 3

Pos.	Description	Connection cable
①	Gearmotor	3x2.5 mm ² (230/115V~) 4x2.5 mm ² (400V~)
②	Photocell transmitter	2x0.5 mm ² (TX)
③	Photocell receiver	4x0.5 mm ² (RX)
④	Key-operated selector switch	2x0.5 mm ²
⑤	Flashing light	2x1.5 mm ²
⑥	External receiver (optional)	3x0.5 mm ²

5. INSTALLING THE AUTOMATED SYSTEM

5.1. PRELIMINARY CHECKS

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

- The structure of the door must be suitable to be automated. Specifically, the wheel diameter must be in relation to the weight of the gate to be automated; an upper guide must be present; travel-limit mechanical stops must be fitted to prevent the gate derailing.
- The soil must permit sufficient stability for the foundation plinth.
- There must be no pipes or electrical cables in the plinth excavation area.
- If the gearmotor is exposed to passing vehicles, install, if possible, adequate means of protection against accidental impact.
- Check if an efficient earth socket is available for connecting the gearmotor.
- Make sure that there is sufficient space around the operator to enable all the installation jobs and subsequent maintenance work to be smoothly carried out.

5.2. MASONRY FOR FOUNDATION PLATE

1. Assemble the foundation plate as in Fig. 4.
2. The foundation plate must be located as shown in Fig. 5 (right closing) or Fig. 6 (left closing) to ensure correct meshing between rack and pinion.

⚠ When positioning the plate, leave the $\varnothing 80$ hole for routing the sheaths on the left, as shown in Fig. 5-6 ref. ①.

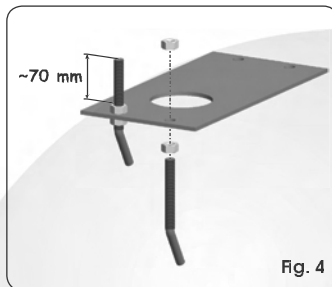
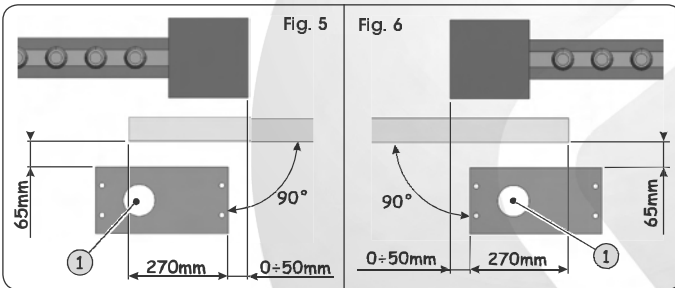


Fig. 4



3. Make a foundation plinth as in Fig. 7 and wall the foundation plate, providing one or more sheaths for routing the electrical cables. Using a spirit level, check if the plate is perfectly level. Wait for the cement to set.
4. Prepare the electrical cables for connection to the accessories and the electrical power supply as shown in Fig. 3.

ⓘ To facilitate making the connections, make the cables come out by about 40 cm from the foundation plate hole (Fig. 5-6 ref. ①).

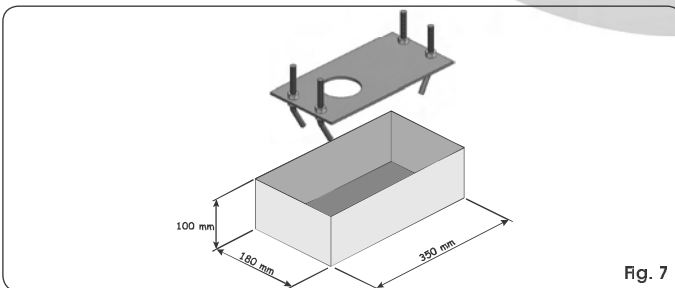


Fig. 7

5.3. MECHANICAL INSTALLATION

- ① Remove the motor cover, fully unscrewing the 2 upper securing screws (Fig. 8 ref. ①).
- ② Rotate the cover by about 30° and pull upward.
- ③ Withdraw the 2 lateral protective devices (Fig.8 ref. ②).

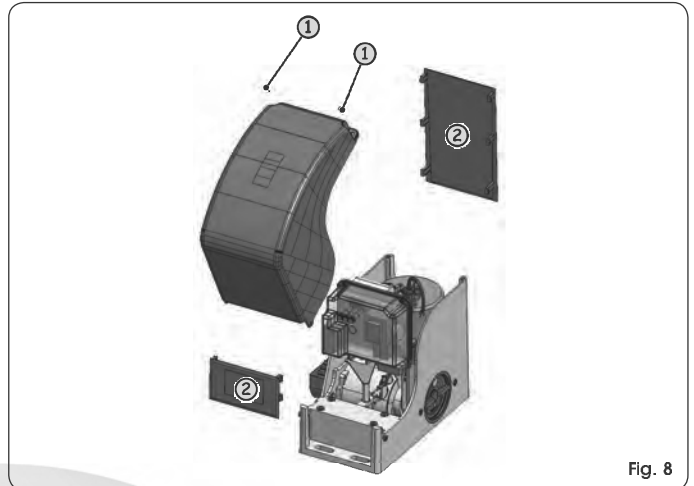


Fig. 8

- ④ Fit the operator on the plate, using the supplied washers and nuts as shown in Fig.9.

ⓘ During this operation, route the cables through the slot on the operator's reduction element.

- ⑤ Adjust the height of the feet and the distance from Fig. 10.

ⓘ This operation is necessary to secure the rack correctly and to enable you, in future, to make any height adjustments to the motor.

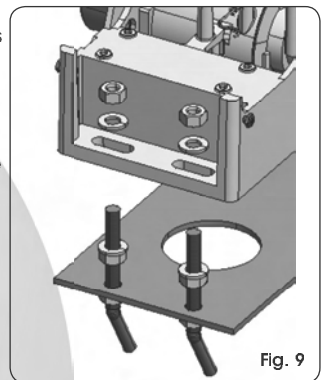


Fig. 9

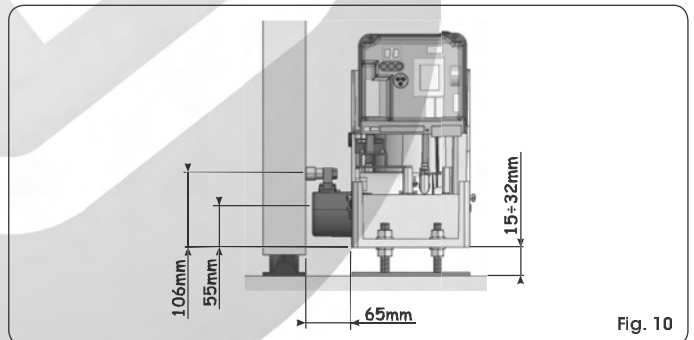


Fig. 10

- ⑥ Tighten the gearmotor securing screws.
- ⑦ Prepare the operator for manual operation as described in chapter 8.

5.4. INSTALLING THE RACK

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

- ① Fit the three threaded pawls on the rack element, positioning them on the upper part of the slot. In this way the clearance on the slot will enable any adjustments long-term.
- ② Manually move the leaf to its opening position.
- ③ Lay the first piece of rack level on the pinion and weld the threaded pawl on the gate as shown in Fig.13.
- ④ Manually move the gate, checking if the rack is resting on the pinion and weld the second and third pawls.
- ⑤ Fit another rack element next to the previous one, using a piece of rack, as shown in Fig.14 ref. ①, to synchronise the teeth of the two elements.
- ⑥ Move the gate manually and weld the three threaded pawls. Carry on like this until you have fully covered the gate.

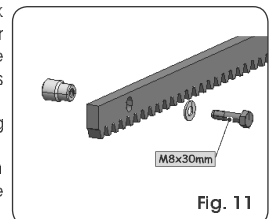


Fig. 11

⚠ Do not allow any superfluous sections of rack to project from the gate.

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

- ① Manually move the leaf to its opening position.
- ② Rest the first section of rack on the pinion, positioning the spacer between the rack and the edge of the gate. Using a spirit level, check if the rack is horizontal and mark the perforation point with a felt-tipped pen.
- ③ Drill with a 6.5 mm diameter bit, and thread with an M8 male element. Screw the bolt.
- ④ Manually move the gate, checking if the rack is resting on the pinion and repeat the operations in point ③.
- ⑤ Fit another rack element next to the previous one, using a piece of rack, as shown in Fig. 14 ref. ①, to synchronise the teeth of the two elements.
- ⑥ Move the gate by hand and perform the securing operations as for the first element, carrying on like this until you have covered the gate completely.

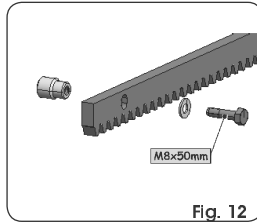


Fig. 12



Do not allow any superfluous sections of rack to project from the gate.

6. START-UP

6.1. CONNECTION OF CONTROL BOARD



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

Observe points 10, 11, 12, 13 and 14 of the GENERAL SAFETY RULES. Follow the instructions in Fig. 3, route the cables in the raceways and make the electrical connections to the selected accessories. Always separate power cables from control and safety cables (push-button, receiver, photocells, etc.). To prevent any electric noise whatever, use separate sheaths.

6.1.1. EARTHING

Connect the earthing cable as shown in Fig. 16.

6.1.2. CONTROL UNIT

In the "C" version gearmotors, the electronic control unit is secured to an adjustable support with a transparent cover. The board programming push-buttons are located on the cover - this enables you to program the board without having to remove the cover. To connect the control unit correctly, follow the specific instructions.

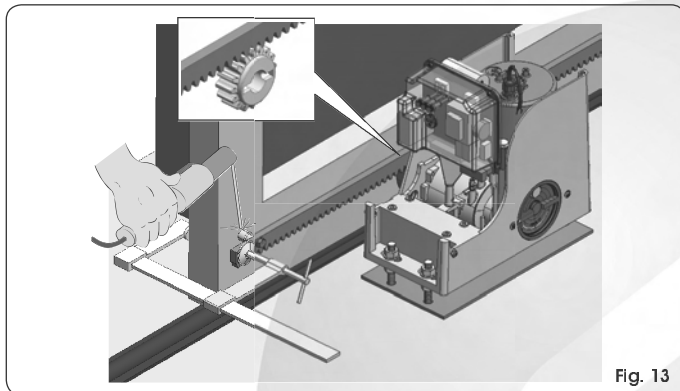


Fig. 13

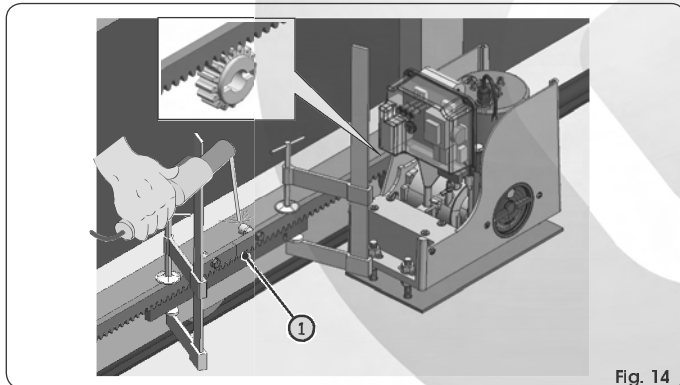


Fig. 14

Notes on installing the rack

- Make sure that, during gate travel, all the rack elements do not come out of the pinion.
- Do not, on any account, weld the rack elements either to the spacers or to each other.
- After you have finished installing the rack, to ensure correct meshing with the pinion, we advise you to lower the position of the gearmotor by about 1.5 mm (Fig.15).
- Manually check if the gate correctly reaches the travel-limit mechanical stops and if there is any friction during travel.
- Do not use grease or other lubricants between rack and pinion.

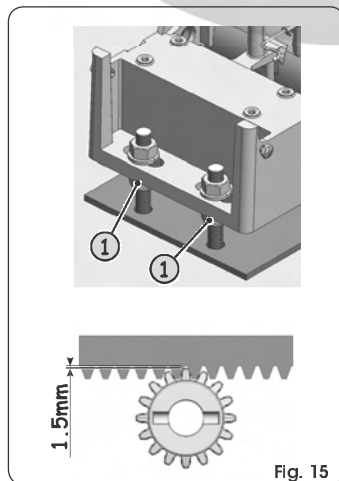


Fig. 15

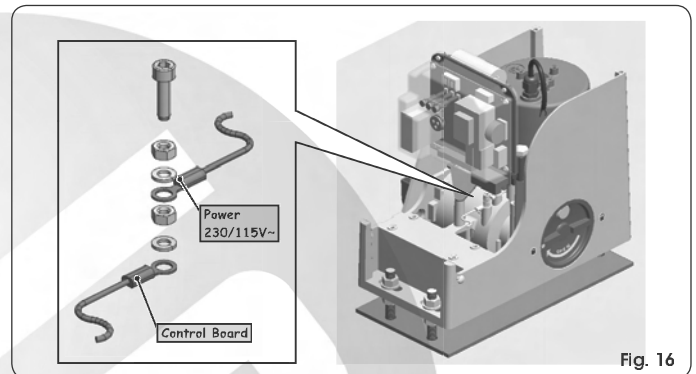


Fig. 16

6.2. POSITIONING THE TRAVEL-LIMIT ELEMENTS



To correctly position the travel-limit magnets, the control unit must first be installed and correctly connected to all the command and safety accessories.

The operator has a magnetic limit switch, which commands gate motion to stop when the magnet, which is secured to the upper part of the rack, activates the sensor. The magnets supplied with the operator are specifically polarised and activate only one of the sensor's contacts: the closing or opening contact. The magnet activating the open gate contact bears an open padlock symbol, and, vice versa, the magnet activating the closed gate contact bears the closed padlock symbol (see Fig. 17). Procedure for correct positioning of the two travel-limit magnets:



To ensure the operator functions correctly, the magnet showing an open padlock must be positioned on the left of the operator, looking at the automated system from the inside. Vice versa, the magnet showing a closed padlock must be positioned on the right of the operator.

- ① Assemble the two magnets as shown in Fig. 17.
- ② Set the operator to manual mode operation - as per paragraph 8 - and power up the system.

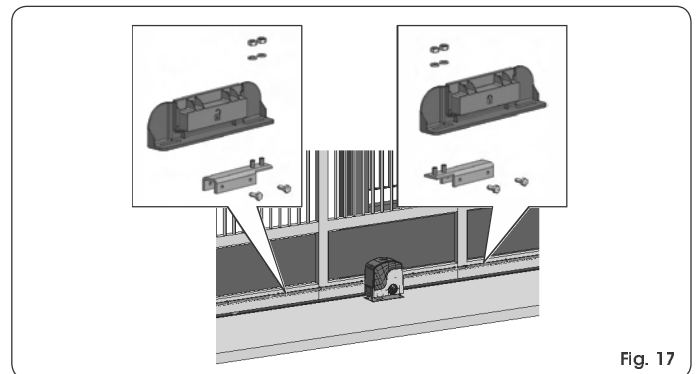


Fig. 17

- ③ Manually take the gate to opening position, leaving 4 cm from the travel limit mechanical stop.
- ④ Slide the magnet nearest to the operator on the rack, in the direction of the motor - see figure 18. As soon as the LED on the board, referring to the travel limit stop, goes OFF, take the magnet forward by another 10 mm and fasten it with the appropriate screws (Fig. 18 ref. ①).

- ⑤ Do likewise for the other magnet.
- ⑥ Take the gate to about halfway of its travel and relock the system (see paragraph 9).

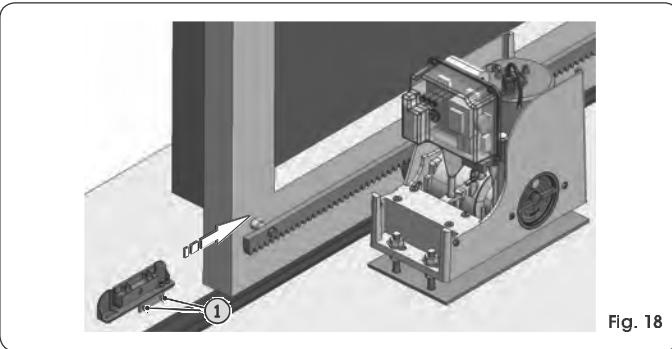


Fig. 18

! Before sending a pulse, make sure that the gate cannot be moved manually.

⑦ Command a complete gate cycle to check if the travel-limit device is tripping correctly.

! To avoid damaging the operator and/or interrupting operation of the automated system, leave a distance of least 40 mm from the travel limit mechanical stops.

! Make sure that at the end of both the opening and closing manoeuvre, the relevant travel-limit LED stays active (LED OFF).

⑧ Make the appropriate modifications to the positions of the travel-limit magnets.

7. AUTOMATED SYSTEM TEST

Fit the lateral protective devices and re-position the motor cover, securing it with the appropriate screws (Fig. 19).

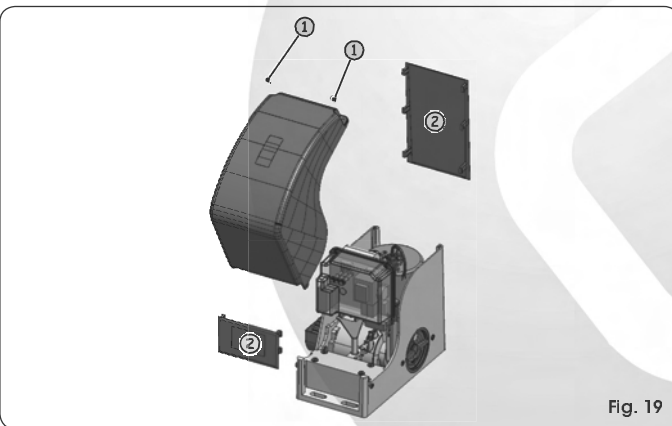


Fig. 19

Apply the danger sticker on the top of the cover (Fig. 20).

Check operating efficiency of the automated system and all accessories connected to it.

Hand the "Use Instructions" to the Customer, explain correct operation and use of the gearmotor, and indicate the potentially dangerous areas of the automated system.

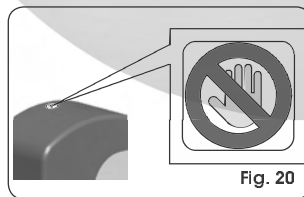


Fig. 20

8. MANUAL OPERATION

! The manual release is a device that makes it possible to disconnect the operator from the gate, thus enabling manual movement.

Before using the release device, cut power to the system, with the differential switch upstream of the gearmotor.

THE RELEASE DEVICE MUST NOT BE CONSIDERED AN EMERGENCY STOP

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

1. Fit the supplied key in the lock, Fig. 21 Ref. ①, and turn it clockwise as shown in Fig. 21 Ref. ②.
2. Turn the release system clockwise by about 180°, as shown in Fig. 21 Ref. ③.
3. Open and close the gate manually.

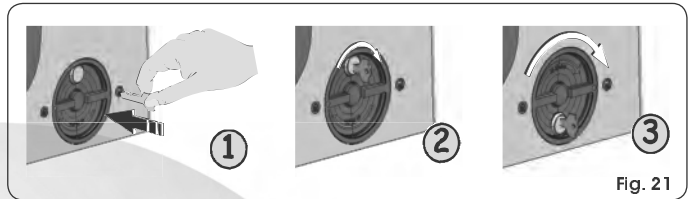


Fig. 21

9. RESTORING NORMAL OPERATION MODE

! To prevent an involuntary pulse from activating the gate during the manoeuvre, cut power to the system before re-locking the operator.

1. Turn the release system anti-clockwise by about 180°, as shown in Fig. 22 ref. ①.
2. Turn the key anti-clockwise, Fig. 22 ref. ②, and remove it from the lock, as shown in Fig. 22 ref. ③.
3. Move the gate until it meshes to release.

! Before powering up the system again, make sure that the gate cannot be moved manually.



Fig. 22

10. SPECIAL APPLICATIONS

There are no special applications.

! Anything not expressly specified in these instructions is expressly prohibited

11. MAINTENANCE

To ensure correct long-term operation and a constant level of safety, we advise you to generally control the system every 6 months. In the "Use Instructions" booklet, there is a form for recording maintenance jobs.

! The enclosed maintenance form is purely a guideline; it cannot be ruled out that to guarantee a correctly operating automated system and a constant level of safety, maintenance operations not described in this form may be necessary.

12. REPAIRS

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.

13. ACCESSORIES

For accessories, see the GENIUS catalogue.

GENIUS® **FALCON M**

Istruzioni per l'uso - Instructions for use - Instructions pour l'usager - Instrucciones para el uso - Gebrauchsanleitung - Gids voor de gebruiker

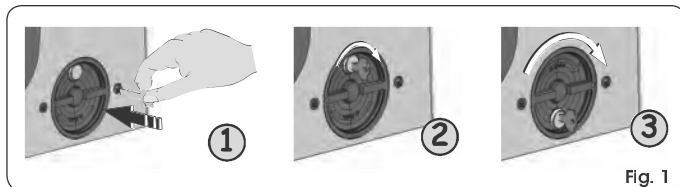


Fig. 1

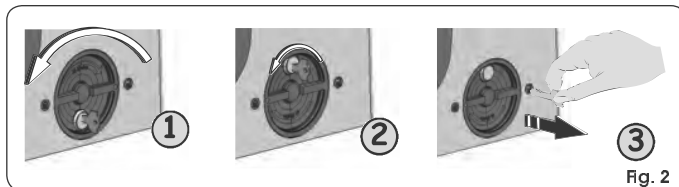


Fig. 2

ITALIANO

! Leggere attentamente le istruzioni prima di utilizzare il prodotto e conservarle per eventuali necessità future

NORME GENERALI DI SICUREZZA

L'automazione **FALCON M**, se correttamente installata ed utilizzata, garantisce un elevato grado di sicurezza. Alcune semplici norme di comportamento possono evitare inoltre inconvenienti accidentali:

- Non sostare e non permettere a bambini, persone o cose di sostare nelle vicinanze dell'automazione, soprattutto durante il funzionamento.
- Tenere fuori dalla portata dei bambini, radiocomandi o qualsiasi altro datore d'impulso che possa azionare involontariamente l'automazione.
- Non permettere ai bambini di giocare con l'automazione.
- Non contrastare volontariamente il movimento del cancello.
- Evitare che rami o arbusti possano interferire col movimento del cancello.
- Mantenere efficienti e ben visibili i sistemi di segnalazione luminosa.
- Non tentare di azionare manualmente il cancello se non dopo averlo sbloccato.
- In caso di malfunzionamenti, sbloccare il cancello per consentire l'accesso ed attendere l'intervento tecnico di personale qualificato.
- Una volta predisposto il funzionamento manuale, prima di ripristinare il funzionamento normale, togliere l'alimentazione elettrica all'impianto.
- Non eseguire alcuna modifica sui componenti facenti parte il sistema d'automazione.
- Astenersi da qualsiasi tentativo di riparazione o d'intervento diretto e rivolgersi solo a personale qualificato.
- Far verificare almeno semestralmente l'efficienza dell'automazione, dei dispositivi di sicurezza e del collegamento di terra da personale qualificato.

DESCRIZIONE

- L'automazione **FALCON M** è ideale per il controllo di aree di accesso veicolare in ambito residenziale.
- **FALCON M** per cancelli scorrevoli è un operatore elettromeccanico che trasmette il movimento all'anta tramite un pignone a cremagliera.
- Per il dettagliato comportamento del cancello scorrevole nelle diverse logiche di funzionamento, fare riferimento al Tecnico d'installazione.
- Nelle automazioni sono presenti i dispositivi di rilevazione ostacolo (fotocellule) che impediscono la chiusura del cancello quando un ostacolo si trova nella zona da loro protetta.
- Il sistema garantisce il blocco meccanico quando il motore non è in funzione e quindi non occorre installare alcuna serratura.
- L'apertura manuale è quindi possibile solo intervenendo sull'apposito sistema di sblocco.
- Il motoriduttore è dotato di frizione elettronica regolabile che permette un uso sicuro dell'automazione.
- L'apparecchiatura elettronica è incorporata nel motoriduttore.
- Un comodo sblocco manuale rende manovrabile il cancello in caso di black-out o disservizio.
- La segnalazione luminosa indica il movimento in atto del cancello.

CARATTERISTICHE TECNICHE

MODELLO	14 M 14 MC	20 M 20 MC	15 M 15 MC	20 M 3Ph
Alimentazione (+6% -10%)	230 V~ 50 Hz		115 V~ 60 Hz	400 V~ 50Hz
Potenza assorbita (W)	650	800	710	840
Corrente assorbita (A)	2,8	3,5	6,7	2,2
Motore elettrico (giri/min.)	1400		1700	1400
Condensatore di spunto (µF)	16	20	60	/
Spinta sul pignone (daN)	110	150	130	185
Coppia (Nm)	35	45	38	60

MODELLO	14 M 14 MC	20 M 20 MC	15 M 15 MC	20 M 3Ph
Termoprotezione (°C)	140			/
Peso anta max. (Kg)	1400	2000	1500	2000
Tipo di pignone	Z 16 modulo 4			
Velocità del cancello (m/min.)	10		11	10
lunghezza max. cancello (m)	20			
Tipo di finecorsa	Magnetico			
Tipo di frizione	Controllo di coppia elettronico (Vedi centrale)			
Frequenza d'utilizzo (vedi grafico)	S3 - 40%			S3 50%
Temperatura ambiente (°C)	-20 ÷ +55			
Peso del motoriduttore (Kg)	14	15		
Grado di protezione	IP 44			

FUNZIONAMENTO MANUALE

! Lo sblocco manuale è un dispositivo che permette di svincolare l'operatore dal cancello permettendone la movimentazione manuale.

Prima di agire sul dispositivo di sblocco togliere tensione all'impianto agendo sull'interruttore differenziale a monte del motoriduttore.

IL DISPOSITIVO DI SBLOCCO NON SI DEVE CONSIDERARE UN ARRESTO D'EMERGENZA

Nel caso sia necessario azionare manualmente il cancello a causa di mancanza di alimentazione elettrica o disservizio dell'automazione, è necessario agire sul dispositivo di sblocco come segue:

1. Inserire l'apposita chiave in dotazione nella serratura, Fig. 1 Rif. ①, e ruotarla in senso orario come indicato in Fig. 1 Rif. ②.
2. Ruotare il sistema di sblocco in senso orario di circa 180°, come indicato in Fig. 1 Rif. ③.
3. Effettuare manualmente la manovra di apertura o chiusura.

RIPRISTINO DEL FUNZIONAMENTO NORMALE

Per evitare che un impulso involontario possa azionare il cancello durante la manovra, prima di ribloccare l'operatore, togliere alimentazione all'impianto.

1. Ruotare il sistema di sblocco in senso antiorario di circa 180°, come indicato in Fig. 2 rif. ①.
2. Ruotare la chiave in senso antiorario, Fig. 2 rif. ②, ed estrarla dalla serratura, come indicato in Fig. 2 rif. ③.
3. Muovere il cancello fino all'ingranamento dello sblocco.

! Prima di ripristinare l'alimentazione al sistema verificare che il cancello non si possa muovere manualmente.


MANUTENZIONE

Al fine d'assicurare nel tempo un corretto funzionamento ed un costante livello di sicurezza è opportuno eseguire, con cadenza semestrale, un controllo generale dell'impianto. Nel fascicolo "Istruzioni per l'uso" è stato predisposto un modulo per la registrazione degli interventi di manutenzione.


! Il modulo per la manutenzione allegato ha uno scopo puramente indicativo, non è escluso che per garantire il corretto funzionamento dell'automazione ed un costante livello di sicurezza siano necessarie operazioni di manutenzione non riportate nel modulo.

RIPARAZIONI

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.

 **Read the instructions carefully before using the product and store them for future use**

GENERAL SAFETY REGULATIONS

 *If correctly installed and used, the **FALCON M** automated system will ensure a high degree of safety. Some simple rules on behaviour can prevent accidental trouble:*

- Do not stand near the automatic system, and do not allow children, persons or things to do so, especially when it is operating.
- Keep radio-controls, or any other pulse generators that could involuntarily activate the automated system, well away from children.
- Do not allow children to play with the automated system.
- Do not willingly obstruct gate movement.
- Prevent any branches or shrubs from interfering with gate movement.
- Keep the indicator-lights efficient and easy to see.
- Do not attempt to activate the gate by hand unless you have released it.
- In the event of malfunctions, release the gate to allow access and wait for qualified technical personnel to do the necessary work.
- When you have set manual operation mode, cut power to the system before restoring normal operation.
- Do not in any way modify the components of the automated system.
- Do not attempt any kind of repair or direct action whatever and contact qualified personnel only.
- At least every six months: arrange a check by qualified personnel of the automatic system, safety devices and earth connection.

DESCRIPTION

The **FALCON M** automated system is ideal for controlling vehicle access areas in residential environments.

FALCON M for sliding gates is an electro-mechanical operator which transmits motion to the leaf via a rack and pinion.

For details on sliding gate behaviour in different function logics, consult the installation Technician.

Automated systems include obstacle detection devices (photocells) that prevent the gate from closing when there is an obstacle in the area they protect.

The system ensures mechanical locking when the motor is not operating and, therefore, installing a lock is unnecessary.

Manual opening is, therefore, only possible by using the release system. The gearmotor has an adjustable electronic clutch enabling safe use of the automated system.

The control unit is built into the gearmotor.

A handy manual release facility makes it possible to move the gate in the event of a power cut or fault.


The warning-light indicates that the gate is currently moving.

TECHNICAL SPECIFICATIONS

MODEL	14 M 14 MC	20 M 20 MC	15 M 15 MC	20 M 3Ph
Power supply (+6% - 10%)	230 V~ 50 Hz		115 V~ 60 Hz	400 V~ 50Hz
Absorbed power (W)	650	800	710	840
Absorbed current (A)	2,8	3,5	6,7	2,2
Electric motor (rpm)	1400		1700	1400
Thrust capacitor (µF)	16	20	60	/
Thrust on pinion (daN)	110	150	130	185
Torque (Nm)	35	45	38	60

MODEL	14 M 14 MC	20 M 20 MC	15 M 15 MC	20 M 3Ph
Temperature protection (°C)	140			/
Max leaf weight (Kg)	1400	2000	1500	2000
Type of pinion gear	Z 16 module 4			
Gate speed (m/min)	10		11	10
Gate max. length (m)	20			
Type of travel-limit device	Magnetic			
Type of clutch	Electronic torque control (See control unit)			
Use frequency (see graph)	S3 - 40%			S3 50%
Operating ambient temperature (°C)	-20 ÷ +55			
Weight of gearmotor (Kg)	14	15		
Protection class	IP 44			

MANUAL OPERATION

 **The manual release is a device that makes it possible to disconnect the operator from the gate, thus enabling manual movement.**


Before using the release device, cut power to the system, with the differential switch upstream of the gearmotor.

THE RELEASE DEVICE MUST NOT BE CONSIDERED AN EMERGENCY STOP


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

1. Fit the supplied key in the lock, Fig. 1 Ref. ①, and turn it clockwise as shown in Fig. 1 Ref. ②.
2. Turn the release system clockwise by about 180°, as shown in Fig. 1 Ref. ③.
3. Open and close the gate manually.

RESTORING NORMAL OPERATION MODE


 *To prevent an involuntary pulse from activating the gate during the manoeuvre, cut power to the system before re-locking the operator.*

1. Turn the release system anti-clockwise by about 180°, as shown in Fig. 2 ref. ①.
2. Turn the key anti-clockwise, Fig. 2 ref. ②, and remove it from the lock, as shown in Fig. 2 ref. ③.
3. Move the gate until it meshes to release.

 **Before powering up the system again, make sure that the gate cannot be moved manually.**


MAINTENANCE

To ensure correct long-term operation and a constant level of safety, we advise you to generally control the system every 6 months. In the "Use Instructions" booklet, there is a form for recording maintenance jobs.


 **The enclosed maintenance form is purely a guideline; it cannot be ruled out that to guarantee a correctly operating automated system and a constant level of safety, maintenance operations not described in this form may be necessary.**

REPAIRS

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.

 **Lire attentivement les instructions avant d'utiliser le produit et les conserver pour toute nécessité future éventuelle**

PRESCRIPTIONS GÉNÉRALES DE SÉCURITÉ

 *S'il est correctement installé et utilisé, l'automatisme **FALCON M** garantit un haut niveau de sécurité. Par ailleurs, quelques règles simples de comportement peuvent éviter bien des accidents*

- Ne pas stationner et interdire aux enfants, aux personnes et aux choses de stationner près de l'automatisme et en particulier durant le fonctionnement.
- Éloigner de la portée des enfants les radiocommandes ou tout autre dispositif générateur d'impulsion, pour éviter que l'automatisme ne soit actionné involontairement.
- Interdire aux enfants de jouer avec l'automatisme.
- Ne pas contraster volontairement le mouvement du portail.
- Éviter que des branches ou des arbustes n'entravent le mouvement du portail.
- Faire en sorte que les systèmes de signalisation lumineuse soient toujours efficaces et bien visibles.

- N'actionner manuellement le portail qu'après l'avoir déverrouillé.
- En cas de dysfonctionnement, déverrouiller le portail pour permettre l'accès et attendre l'intervention technique du personnel qualifié.
- Lorsque le fonctionnement manuel a été disposé, couper le courant sur l'installation avant de rétablir le fonctionnement normal.
- N'effectuer aucune modification sur les composants qui font partie du système d'automatisme.
- Éviter toute tentative de réparation ou d'intervention directe et s'adresser uniquement à du personnel qualifié.
- Faire vérifier, au moins tous les six mois, l'efficacité de l'automatisme, des dispositifs de sécurité et de la mise à la terre par du personnel qualifié.

DESCRIPTION

- L'automatisme **FALCON M** est l'idéal pour le contrôle des zones d'accès de véhicules dans un cadre domestique.
- **FALCON M** pour portails coulissants est un opérateur électromécanique qui transmet le mouvement au vantail par l'intermédiaire d'un pignon à crémaillère.

**ALLEGATO 1 : PIANO MANUTENZIONE PROGRAMMATA - ENCLOSURE 1 : PROGRAMMED
 MAINTENANCE SCHEDULE - ANNEXE 1 : PLAN D'ENTRETIEN PROGRAMMÉ - ANEXO 1 : PLAN DE
 MANTENIMIENTO PROGRAMADO - ANLAGE 1 : PLAN DER PROGRAMMIERTEN WARTUNGSARBEITEN
 - BIJLAGE 1 – SCHEMA GEPROGRAMMEERD ONDERHOUD**

CONTROLLI SEMESTRALI SIX-MONTHLY CHECKS CONTROLES SEMESTRIELS CONTROLES SEMESTRALES HALBJÄHRLICHE PRÜFUNGEN HALFJAARLUKSE CONTROLES	1°	2°	3°	4°	5°	6°	7°	8°	9°	10°
	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___	___/___/___
Collegamento ed efficacia dell'interruttore differenziale										
Connection and efficiency of safety circuit breaker										
Connexion et efficacité de l'interrupteur différentiel										
Conexión y eficacia del interruptor diferencial										
Anschluss und Funktionstüchtigkeit des Differentialschalters										
Verbinding en werking van de differentieelschakelaar										
Taratura e corretto funzionamento della frizione elettronica										
Setting and correct operation of electronic clutch										
Etalonnage et fonctionnement correct de l'embrayage électronique										
Tarado y correcto funcionamiento del embrague electrónico										
Einstellung und Funktionstüchtigkeit der elektronischen Kupplung										
Afstelling en correcte werking van de elektronische koppeling										
Collegamenti e funzionamento dei dispositivi di sicurezza										
Connections and operation of safety devices										
Connexions et fonctionnement des dispositifs de sécurité										
Conexiones y funcionamiento de los dispositivos de seguridad										
Anschlüsse und Funktionstüchtigkeit der Sicherheitsvorrichtungen										
Aansluitingen en werking van de veiligheidsvoorzieningen										
Collegamento ed efficacia della presa di terra										
Connection and efficiency of earth socket										
Connexion et efficacité de la prise de terre										
Conexión y eficacia de la toma de tierra										
Anschluss und Funktionstüchtigkeit der Erdung										
Aansluiting en werking van de aarding										
Funzionamento del dispositivo di sblocco manuale										
Operation of manual release device										
Fonctionnement du dispositif de déblocage manuel										
Funcionamiento del dispositivo de desbloqueo manual										
Funktionstüchtigkeit der manuellen Freigabevorrichtung										
Werkning van het handbediende ontgrendelsysteem										
Funzionamento dei finecorsa										
Operation of limit switches										
Fonctionnement des fins de course										
Funcionamiento de los finales de carrera										
Funktionstüchtigkeit der Endschalter										
Werkning van de eindschakelaars										







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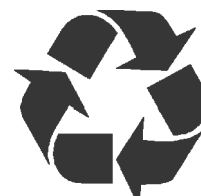
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