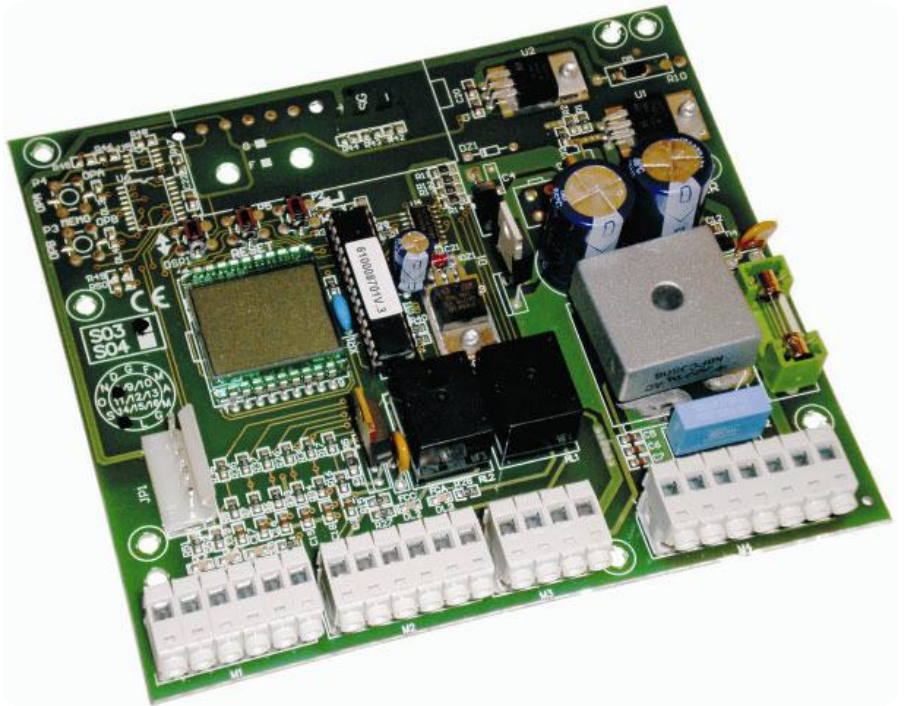


724D



FAAC

ITALIANO

AVVERTENZE PER L'INSTALLATORE OBBLIGHI GENERALI PER LA SICUREZZA



ATTENZIONI È importante per la sicurezza delle persone seguire attentamente tutta l'istruzione. Una errata installazione o un usage 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. FAAC 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. FAAC non è responsabile dell'incosservanza della Buona Tecnica nella costruzione delle chiusure da motorizzare, nonché delle deformazioni che dovessero intervenire nell'utilizzo.
10. L'installazione deve essere effettuata nell'automatismo alle Norme EN 12453 e EN 12445. Il livello di sicurezza dell'automatismo 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'automatismo 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'automatismo dispone di una sicurezza intrinseca antischiaffacciamento costituita da un controllo di coppia. È comunque necessario verificarne la soglia di intervento secondo quanto previsto dalle Norme indicate al punto 10.
16. I dispositivi di sicurezza (norma EN 12978) permettono di proteggere eventuali aree di pericolo da rischi meccanici di movimento, come ad es. schiacciamento, coinvolgimento, cesolamento.
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. FAAC declina ogni responsabilità ai fini della sicurezza e del buon funzionamento dell'automatismo, in caso vengano utilizzati componenti dell'impianto non di produzione FAAC.
19. Per la manutenzione utilizzare esclusivamente parti originali FAAC.
20. Non eseguire alcuna modifica sui componenti facenti parte del sistema d'automatismo.
21. L'installatore deve fornire tutte le informazioni relative al funzionamento manuale del sistema in caso di emergenza e consegnare all'utente utilizzatore dell'impianto il libretto d'avvertenze allegato al prodotto.
22. Non permettere ai bambini o persone di sostare nelle vicinanze del prodotto durante il funzionamento.
23. L'applicazione non può essere utilizzata da bambini, da persone con ridotte capacità fisiche, mentali, sensoriali o da persone prive di esperienza o del necessario addestramento.
24. Tenere fuori dalla portata dei bambini radiocomandi o qualsiasi altro datore di impulso, per evitare che l'automazione possa essere azionata involontariamente.
25. Il transito tra le ante deve avvenire solo a cancello completamente aperto.
26. L'utente utilizzatore deve astenersi da qualsiasi tentativo di riparazione o d'intervento e deve rivolgersi solo ed esclusivamente a personale qualificato FAAC o centri d'assistenza FAAC.
27. Tutto quello che non è previsto espressamente in queste istruzioni non è permesso.

ENGLISH

WARNINGS FOR THE INSTALLER GENERAL SAFETY REGULATIONS



ATTENZIONI 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 has been designed and built only 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. FAAC 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, in addition to national legal regulations.
9. FAAC 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 mechanism to the closing circuit.
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. FAAC declines all liability as concerns safety and efficient operation of the automated system, if system components not produced by FAAC are used.
19. For maintenance, strictly use original parts by FAAC.
20. Do not in any way modify the components of the automated system.
21. The installer shall supply all information concerning manual operation of the system in case of an emergency, and shall hand over to the user the warnings handbook supplied with the product.
22. Do not allow children or adults to stay near the product while it is operating.
23. The application cannot be used by children, by people with reduced physical, mental, sensorial capacity, or by people without experience or the necessary training.
24. Keep radio controls or other pulse generators away from children, to prevent the automated system from being activated involuntarily.
25. Transit through the leaves is allowed only when the gate is fully open.
26. The user must not in any way attempt to repair or to take direct action and must solely contact qualified FAAC personnel or FAAC service centres.
27. Anything not expressly specified in these instructions is not permitted.

FRANÇAIS

CONSIGNES POUR L'INSTALLATEUR RÈGLES DE SÉCURITÉ



ATTENTION! Il est important, pour la sécurité des personnes, de suivre à la lettre toutes les instructions. Une installation erronée ou un usage erroné du produit peut entraîner de graves conséquences pour les personnes.

1. Lire attentivement les instructions avant d'installer le produit.
2. Les matériaux d'emballage (matière plastique, polystyrène, etc.) ne doivent pas être laissés à la portée des enfants car ils constituent des sources potentielles de danger.
3. 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. FAAC décline toute responsabilité qui dériverait d'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 les personnes.
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. FAAC 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 soit 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'achèvement, 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. FAAC 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 FAAC.
19. Utiliser exclusivement, pour l'entretien, des pièces FAAC 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'utilisateur qui utilise l'installation les "Instructions pour l'User" fournies avec le produit.
22. Interdire aux enfants ou aux tiers de stationner près du produit durant le fonctionnement.
23. Ne pas permettre aux enfants, aux personnes ayant des capacités physiques, mentales et sensorielles limitées ou dépourvues de l'expérience ou de la formation nécessaires à utiliser l'application en question.
24. Éviter de la portée des enfants les radiocommandes ou tout autre générateur d'impulsions, pour éviter tout actionnement involontaire de l'automatisme.
25. Le transit entre les vantaux ne doit avoir lieu que lorsque le portail est complètement ouvert.
26. L'utilisateur doit s'abstenir de toute tentative de réparation ou d'intervention et doit s'adresser uniquement et exclusivement au personnel qualifié FAAC ou aux centres d'assistance FAAC.
27. Tout ce qui n'est pas prévu expressément dans ces instructions est interdit.

ESPAÑOL

ADVERTENCIAS PARA EL INSTALADOR REGLAS GENERALES PARA LA SEGURIDAD



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

1. Leer detenidamente las instrucciones antes de instalar el producto.
2. Los materiales del embalaje (plástico, poliestireno, etc.) no deben dejarse al alcance de los niños, ya que constituyen fuentes potenciales de peligro.
3. Guardar las instrucciones para futuras consultas.
4. Este producto ha sido proyectado y fabricado exclusivamente para la utilización indicada en el presente manual. Cualquier uso diverso del previsto podría perjudicar el funcionamiento del producto y/o representar fuente de peligro.

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CE DECLARATION OF CONFORMITY

Manufacturer: FAAC S.p.A.

Address: Via Benini, 1 - 40069 - Zola Predosa - Bologna - ITALY

Declares that: Control unit mod. **724D**

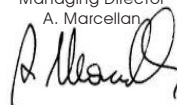
- conforms to the essential safety requirements of the following EEC directives:
 - 2006/95/EC Low Voltage directive.
 - 2004/108/EC Electromagnetic Compatibility directive.

Additional information:

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


Bologna, 01 September 2008


Managing Director
A. Marcellan



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.

24 Vdc CONTROL UNIT FOR SLIDING GATES

OPERATING INSTRUCTIONS – INSTALLATION INSTRUCTIONS

1. GENERAL CHARACTERISTICS

This 24Vdc control unit for sliding gates offers high performance and a wide range of adjustments, with opening and closing slow-downs, encoder management and the possibility of managing both opening and closing travel limit devices.

If correctly installed, thanks to encoder control, this control unit guarantees installation conforming to current safety regulations.

A sophisticated electronic control monitors the power circuit at all times and disables the control unit in the event of malfunctions that could impair efficiency of the electronic clutch.

The parameter settings and the operating logics are shown on a handy LCD display, which indicates gate status during normal operation. Operating times are controlled by self-learning during programming.

In "C" version gearmotors, the control unit is on board the gearmotor. A waterproof enclosure is available for housing the control unit and any buffer batteries (optional) which must correspond to the indications in the following table.

2. TECHNICAL SPECIFICATIONS

Supply voltage of transformer	230/115 Vac (+6 -10%) - 50/60 Hz.
Supply voltage of control unit	24 Vac (+6 -10%) - 50/60 Hz.
Absorbed power	3 W
Motor max. load	70 W
Accessories max. load	24Vdc 500mA
Flashing lamp/courtesy light max. load	24Vdc 15W max.
Operating ambient temperature	-20°C +50°C
Protection fuses	4 (3 self resetting)
Function logics	Automatic / Step-by-step automatic/Semi-automatic / Step-by step semi-automatic/Condominium
Opening / closing time	Through self-learning during programming
Pause time	Through self-learning during programming
Thrust force	Four levels adjustable on display
Slow-downs	At opening and closing
Terminal board inputs	24 Vac power supply, Supply to batteries, Encoder, Total opening, Pedestrian opening, Opening safety devices, Closing safety devices, Stop, Opening travel limit devices, Closing travel limit devices
Radio connector	Rapid 5 pin connector for receiver
Terminal board outputs	24Vdc supply for accessories, 24Vdc for motors, Courtesy light/ Flashing lamp 24 Vdc, Electrical lock 12 Vdc/ac
Board dimensions	145 x 128 mm.
Characteristics of 230Vac toroidal transformer	primary 230Vac sec. 22Vac 120VA
Characteristics of 115Vac toroidal transformer	primary 115Vac sec. 20Vac 120 VA
Characteristics of optional batteries	12V 4Ah dimensions: 90 x 70 x 108 mm
Characteristics of outdoor grade enclosure	306 x 225 x 130 mm. - IP55



Different output values can be obtained on the 24Vac output depending on the mains voltage value. Before start-up, always check the transformer output voltage. It must not exceed 26Vac for both power feed values of 230Vac and 115Vac. Voltage must be measured load free, i.e. with the transformer powered and disconnected from the board.

3. PREPARATIONS



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

Keep the instructions for future reference

Make sure there is an adequate differential switch upstream of the system as specified by current laws, and install a single-pole thermal breaker on the electrical power mains.

To lay cables, use adequate rigid and/or flexible tubes.

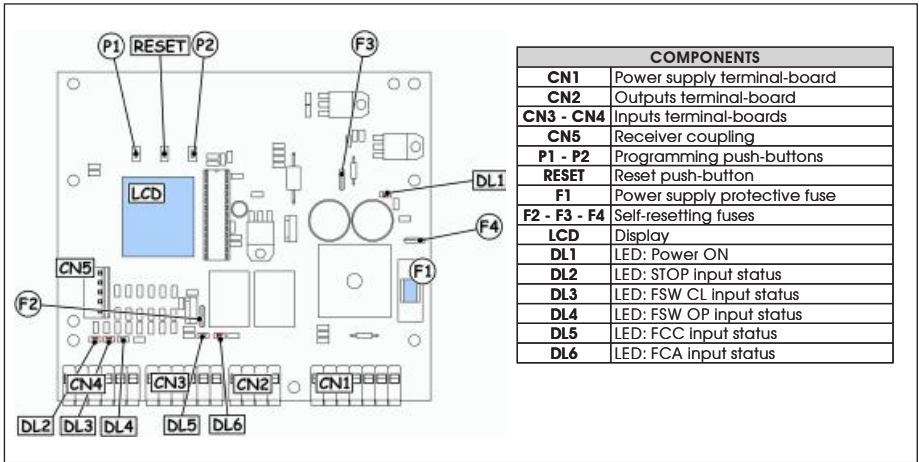
Always separate connection cables of low voltage accessories from those supplying 115/230 Vac. To prevent any interference whatever, use separate sheaths.



If you wish to put the control unit in a remote position with respect to the motor, the maximum length of the power cables between the control unit and the motor must not exceed 3 m, using cables with a diameter of 2.5 mm² for the motor and 3x0.5 mm² for the encoder and the travel limit devices (optionals). One cannot guarantee correct encoder operation for distances longer than 3 meters.

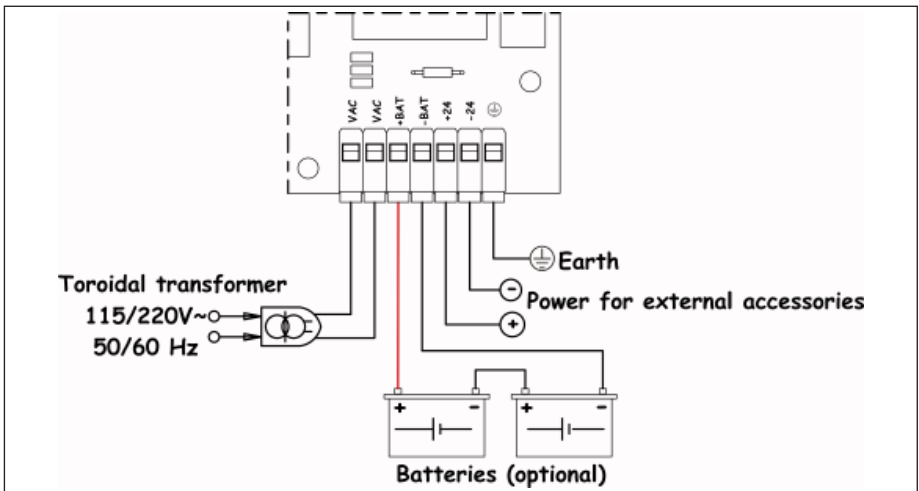
Procedure for securing components inside the water-tight enclosure, refer to paragraph 15.

4. BOARD LAY-OUT



5. CONNECTIONS AND OPERATION

5.1. TERMINAL BOARD CN1



5.1.1. POWER SUPPLY 22V

Terminals "VAC - VAC". Connect the transformer secondary circuit to this input with power supply of 24Vac 50/60 Hz. Presence of power supplied by the transformer is signalled by the lighting up of the "DL1" LED.

5.1.2. BATTERIES


Terminals "+BAT - BAT". Connect the buffer batteries (optional) power cables to these terminals. The control unit is designed to operate with two buffer batteries, with the minimum characteristics shown on the table of paragraph 2. During normal operation, the control unit keeps the batteries charged. They enter into operation if no power is supplied to the transformer.

Power supply from batteries only should be considered an emergency situation. The number of possible manoeuvres is linked to the quality of the batteries, the structure of the gate to be moved, how long ago the power cut occurred, etc, etc..

Observe the battery supply polarity.

5.1.3. ACCESSORIES

"**+24V - -24V**" terminals. The accessories power cables should be connected to these terminals.

 The maximum load of the accessories must not exceed 500 mA.

 **The output of these terminals is DC - observe the power supply polarity of the accessories.**

5.1.4. EARTH

" Terminal. The control unit earthing line should be connected to this terminal.

 This connection is absolutely necessary to ensure a correctly operating control unit.

5.2. TERMINAL BOARD CN2

5.2.1. GEARMOTOR


"**APM1 - CHM1**" terminals. Connect the motor power cables to these terminals. The maximum load applied to these terminals must not exceed 70W


5.2.2. FLASHING LAMP / COURTESY LIGHT

"**LAMP - LAMP**" terminals. Both a flashing lamp and a courtesy light can be connected to these terminals, both powered on 24 Vdc and a maximum of 15W. To make this output operational, select parameter "**G**", see paragraph 9.

Flashing lamp operation:

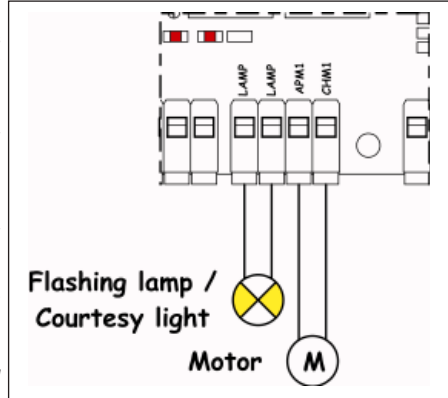
During normal operation, the flashing lamp operates only when the leaves are moving. When the leaves are idle, both during opening and closing, the flashing lamp stays off.

 We advise you to connect the flashing lamp before programming the control unit, because it indicates its phases.

 **Use a steady light flashing lamp; flashing is controlled by the control unit.**

Courtesy light operation:

The courtesy light stays on for the entire cycle time. At the end of the cycle, the light stays on for another 2 minutes. The activation time of the courtesy light cannot be changed. Use a lamp powered at a maximum of 24 V 15W.



5.3. TERMINAL BOARD CN3

5.3.1. CLOSURE TRAVEL LIMIT DEVICE

"**COMF - FCC**" terminals. Normally closed contact. It intervenes on the gate's closing motion, defining the start of the slowed down section. The status of this input is signalled by LED DL5.

5.3.2. OPENING TRAVEL LIMIT DEVICE

"**COMF - FCA**" terminals. Normally closed contact. It intervenes on the gate's opening motion, defining the start of the slowed down section. The status of this input is signalled by LED DL6.

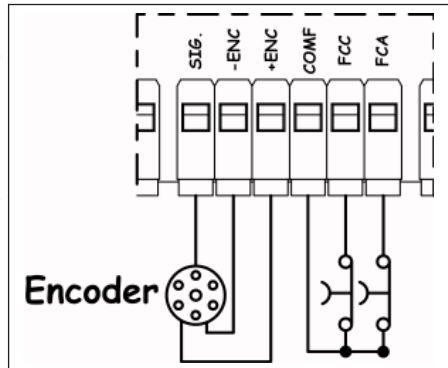
 • The travel limit devices cannot be used to stop gate motion immediately

5.3.3. ENCODER

"**SIG. - -ENC - +ENC**" terminals. Use the encoder supplied with the control unit. Connect the return signal from terminal "**S**" of the encoder to terminal "**SIG**"; to terminal "**-ENC**" connect terminal "**V-**" of the encoder and to terminal "**+ENC**" connect terminal "**V+**" of the encoder.

 **Use of the encoder is absolutely necessary for correct operation of the control unit.**

To ensure correct operation of the encoder, respect the connection described above.



5.4. TERMINAL BOARD CN4

5.4.1. TOTAL OPENING

"COM2 – OPEN A" terminals. Normally open contact. Connect, to these terminals, any pulse generator (push-button, key selector, etc...) which by closing a contact, generates a total opening or closing impulse of the gate. The operation of this contact is defined by operating parameter "D", see paragraph 9.



• A total opening impulse always has priority over pedestrian opening.

• To connect several pulse generators, connect the devices in parallel.

5.4.2. PEDESTRIAN OPENING

"COM2 – OPEN B" terminals. Normally open contact. Connect, to these terminals, any pulse generator (e.g. push-button, key selector, etc...) which, by closing a contact, generates a partial opening or closing impulse of the gate. Opening for pedestrians corresponds to 30% of the memory-stored total opening.



• A total opening impulse always has priority over pedestrian opening.

• To connect several pulse generators, connect the devices in parallel.

5.4.3. STOP

"COM2 – STOP" terminals. Normally closed contact. Connect, to these terminals, any safety device (e.g. pressure switch, edge etc...), which, by opening a contact, causes the gate to stop immediately and disables any automatic function. The status of this input is signalled by LED "DL2". The gate resumes its memory-stored cycle only by means of another total or partial opening pulse.



• If no STOP devices are connected, jumper connect the input.

• To connect several STOP commands, connect the devices in series.

5.4.4. CLOSING SAFETY DEVICES

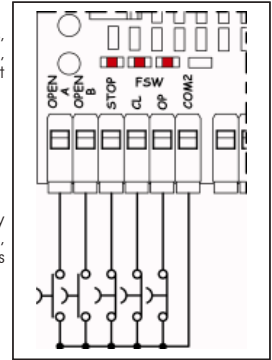
"COM2 – FSW CL" terminals. Normally closed contact. Connect, to these terminals, any safety device (photocell, safety edge, pressure switch etc...) which, by opening a contact, affects the gate's closing motion, causing it to reverse to the opening position. The status of this input is signalled by LED "DL3".

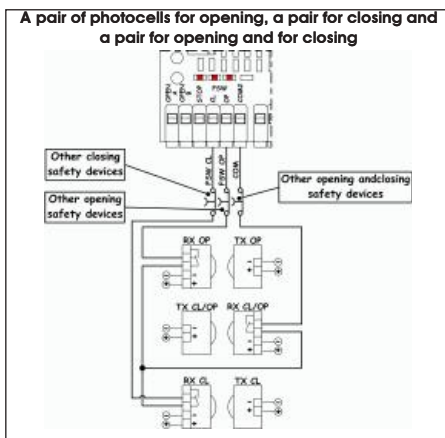
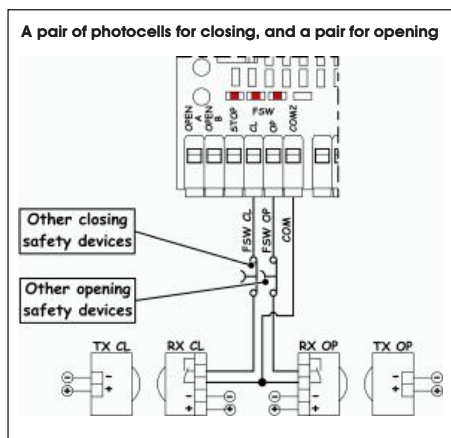
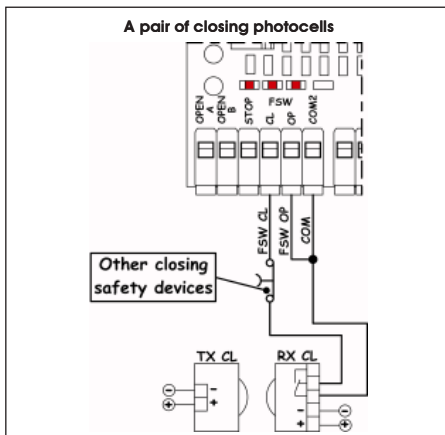
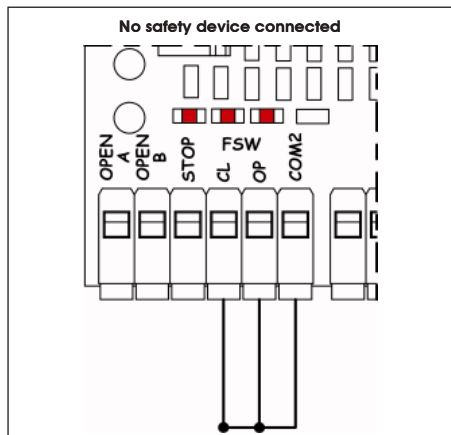
5.4.5. OPENING SAFETY DEVICES

"COM2 – FSW OP" terminals. Normally closed contact. Connect, to these terminals, any safety device (photocell, safety edge, pressure switch etc...) which, by opening a contact, affects the gate's opening motion, causing it to reverse to the closing position. The status of this input is signalled by LED "DL4".



• For correct connection of safety devices, consult the following images:





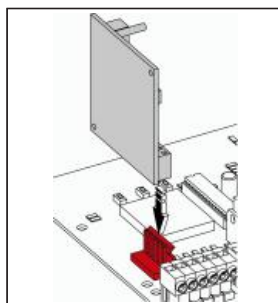
6. INSTALLING THE RADIO CONTROL RECEIVER BOARD

The control unit is designed to house a 5-pin radio-receiver module. Installation procedure: turn off electrical power and fit the module in connector **CN5** on the control unit.



To avoid damaging the receiver and thus irreparably compromising its operation, the receiver must be installed, observing the fitting direction specified in the figure at the side.

Follow the instructions of the radioreceiver to memory-store the radiocontrol.



7. CONTROL LEDES

LEDS	ON	OFF
DL1	Power supply by toroidal transformer	Power supply by batteries or no power supply
DL2	Stop command not activated	Stop command activated
DL3	Closing safety device not engaged	Closing safety device engaged
DL4	Opening safety device not engaged	Opening safety device engaged
DL5	Closing limit switch not engaged	Closing limit switch engaged
DL6	Opening limit switch not engaged	Opening limit switch engaged



Indicated in bold: status of LEDs with gate closed, control unit powered, and both travel limit devices installed.

- If the travel limit devices are not used, jumper connect the relevant inputs; LEDs **DL5** and **DL6** must be lighted.
- If no **STOP** devices are connected, jumper connect the input , the **DL2** LED must be lighted.
- If the **safety devices** are not connected, jumper connect the relevant inputs – LEDs **DL3** and **DL4** must be lighted.

8. OPERATION OF DISPLAY

The control unit has a handy display for viewing and programming the operating parameters.

The display shows gate status during normal operation. The displayed values are indicated on the following table:

DISPLAYED VALUE	GATE STATUS
- -	Gate at rest
□ P	Gate opening or opened (Only with automatic closure not enabled)
⏸ c	Gate open in pause status (Only with automatic closure not enabled)
⏏ L	Gate closing

9. ADJUSTING THE OPERATING PARAMETERS

The operating parameters of the control unit are identified by two characters, one letter, lower case or upper case, and the number. The letter identifies the parameter we are modifying, and the number the set value. For example, if "P2" appears on the display, this means that we are modifying the power of the motor and the sensitivity of the electronic clutch, letter A, which is currently on value 2.

To access operating parameter adjustment, follow the instructions below:

1. When you have made all the necessary connections, power up the system and check if all the signalling LEDs are in the situation specified in paragraph 7.
2. The display shows value "--".
3. Press and hold down push-button **P2** until the display shows the name and value of the first parameter.
4. Press push-button **P1** to change the value of the parameter.
5. To move on to the next parameter, press push-button **P2**.
6. When 60 seconds have elapsed without any key being touched, the control unit exits the adjustment mode. You can manually exit the adjustment mode by scrolling all the parameters with push-button **P2**. When the displays shows value "--", you have returned to normal operation.

The following table summarises all settable parameters and the assignable values.

DISPLAY	DESCRIPTION
Adjustment of sensitivity of the electronic clutch and of motor power.	
A1	Minimum motor power, more sensitive to obstacle
A2	Medium-low motor power, medium-high sensitivity to obstacles
A3	Medium-high motor power, medium-low sensitivity to obstacles
A4	High motor power, low sensitivity to obstacles
Automatic Reclosure: this function enables or disables automatic gate reclosing	
c0	Disabled
c1	Enabled
Operation of OPEN A command: this function determines the behaviour of the OPEN A (total opening) push-button.	
d0	Opens / Closes / Opens
d1	Opens / Stops / Closes / Stops
Condominium function: if this function is enabled while the gate is being opened, the start command is disabled.	
E0	Disabled
E1	Enabled
Courtesy light/ Flashing lamp: with this parameter, you can select the type of output from the LAMP - LAMP terminals, selecting from flashing lamp and courtesy light. IMPORTANT: Maximum load of terminals: 24 Vdc 15W max.	
G0	Flashing lamp
G1	Courtesy light (active for about 2 minutes)
Slow-down point percentage: this parameter is used to set the length of the slowed down section, selecting it from the four fixed values	
H1	10% of maximum memory-stored opening
H2	20% of maximum memory-stored opening
H3	30% of maximum memory-stored opening
H4	40% of maximum memory-stored opening
Speed during slowed-down phase: this parameter is used to set motor speed during the slowed down phase, selecting it from the two values	
i0	High
i1	Low
Operation with encoder or encoder+travel limit device: with this function, you can choose the type of automated operation. When operating only with the encoder, at the end of the closing manoeuvre the control unit commands brief motion in order to facilitate a possible release operation.	
L0	Operation with encoder only
L1	Operation with encoder and travel limit device
Pre-flashing at closure: if this function is activated before the closing phase, the flashing lamp pre-flashes to indicate that the gate is about to move. Pre-flashing time is about 1.5 seconds and cannot be modified.	
r0	Pre-flashing excluded
r1	Pre-flashing ON
Immediate closure: if this function is activated, when the gate is open during a pause, and therefore with Automatic, Automatic step-by-step or condominium logics, when one transits in front of the photocells active during closure or during opening and closure, the gate closes immediately, without waiting for the programmed pause time to elapse.	
s0	Immediate closure disabled
s1	Immediate closure enabled
Immediate closure/timer command: this function enables you to command immediate closure of the gate or to close it with the OPEN A total opening command. This function is only active in combination with function logics with automatic closure of the gate (Automatic, Step-by-step Automatic and Condo).	
P0	Immediate closure: when the gate is open during a pause given with the OPEN A command, the gate begins the closing manoeuvre without waiting for pause time to elapse.
P1	Timer Function: when the gate is open during a pause, with a single impulse of the OPEN A command, the control unit restarts counting the pause time before reclosing. If you keep pressing the OPEN A command, the pause time count stops and the gate stays open until the OPEN A command is active. When you release the command, the gate recloses when pause time has elapsed.
Soft Block Function: this function is used to activate brief braking of the gate before gate motion is stopped	
r0	Function not active: leaf stops immediately
r1	Function active: gate brakes briefly before it stops

10. PROGRAMMING

During the programming procedure, the control unit memory-stores the mechanical contact points during opening, closing and any pause time before re-closing.

1. Release the gearmotor and position the gate at about halfway of open position. Re-block the gear motor.
2. Power up the control unit and check if value "--" is shown on the display.
3. Press and hold down key **P2** until the display shows the first parameter and relevant value.
4. Give an **OPEN A** command to any device connected to this input - the display shows value "Pr", and the leaves begin to move. The first manoeuvre performed by the leaves must be closing. If this does not happen, stop gate movement by pressing the "RESET" push-button. Power down, and then reverse the wires of the motor (**APM1** and **CHM1** terminals). Resume the programming procedure from point 1.
5. When the closing mechanical stop point or travel limit device is reached, the gearmotor pauses for about 2 seconds, and then restarts with a total opening manoeuvre up to the opening mechanical stop point or up to the relevant travel limit device.
6. When the opening position has been reached, the pause time count begins. This happens also if automatic re-closure of the gate has not been enabled
7. When the required time has elapsed, give another **OPEN A** pulse, and the gate will begin to close.
8. When the closing stop point or relevant travel limit device has been reached, programming has terminated, and the display shows value "--".



The display shows value "Pr" during the entire programming procedure.

- The flashing lamp stays lighted on steady beam during the entire programming time.*
- During the programming procedure, leaf movement is slowed down.*

11. OPERATION OF ELECTRONIC CLUTCH

A very important device for reasons of safety. Its setting stays unchanged long-term, without wear. It is active during both closing and opening. When it operates, it reverses gate movement without disabling automatic closing if enabled. If the clutch operates several consecutive times during the closing movement, the control unit goes into **STOP** status, disabling any automatic command. If the clutch operates several consecutive times, means that the obstacle remains and it could be dangerous to perform any manoeuvre. To restore normal operation, the user must give an **OPEN A** / **OPEN B** pulse.

12. PROTECTION FUSES

FUSE	PROTECTION	FUSE	PROTECTION	FUSE	PROTECTION	FUSE	PROTECTION
F1=T10A 250V - 5x20	Power supply 24Vac	F2= Self-re- setting	Flashing lamp	F3= Self-re- setting	Battery-char- ger	F4= Self-re- setting	Supply to ac- cessories

13. FUNCTION LOGICS

Logic "A" Automatic C=1 d=0 E=0

Gate status	Pulses			
	Open A	Open B	Stop	Opening safety devices
Closed	Opens gate and recloses after pause time	Partially opens the leaf and recloses after pause time	No effect (OPEN disabled)	Disables OPEN commands
Open in pause	P=0 Closes immediately P=1 Reloads pause time; if held down, it stops gate movement; on release, it recloses after pause time	Closes the gate immediately	Stops operation	O=0 at release, and providing pause time has elapsed, recloses after 5 seconds, otherwise, it recloses when pause time is up
At closure	Reverses gate movement	No effect	Stops operation	Reverses motion
At opening	Reverses gate movement	No effect	Stops operation	Reverses gate movement

Logic "AP" Step-by-step Automatic C=1 d=1 E=0

Gate status	Pulses			
	Open A	Open B	Stop	Opening safety devices
Closed	Opens gate and recloses after pause time	Partially opens the leaf and recloses after pause time	No effect (OPEN disabled)	Disables OPEN commands
Open in pause	P=0 Closes immediately P=1 Reloads pause time; if held down, it stops gate movement; on release, it recloses after pause time	Closes the gate immediately	Stops operation	O=0 at release, and providing pause time has elapsed, recloses after 5 seconds, otherwise, it recloses when pause time is up
At closure	Stops gate motor and opens after next pulse	No effect	Stops operation	Reverses motion
At opening	Stops gate motor and closes after next pulse	No effect	Stops operation	Reverses gate movement

Logic "E" Semi-automatic C=0 d=0 E=0						
Pulses						
Gate status	Open A	Open B	Stop	Opening safety devices	Closing safety devices	OP/CL safety devices
Closed	Opens the gate	Executes partial opening	No effect (OPEN disabled)	Disables OPEN commands	No effect	Disables OPEN commands
Open	Closes the gate	Closes the gate	No effect (OPEN disabled)	No effect	Saves the OPEN command and closes at release	Disables OPEN commands
At closure	Reverses gate movement	No effect	Stops operation	No effect	Reverses gate movement	Stops operation and reverses after release
At opening	Reverses gate movement	No effect	Stops operation	Reverses gate movement	No effect	Stops operation and reverses after release
Logic "EP" Step-by-Step Semi-automatic C=0 d=1 E=0						
Pulses						
Gate status	Open A	Open B	Stop	Opening safety devices	Closing safety devices	OP/CL safety devices
Closed	Opens the gate	Executes partial opening	No effect (OPEN disabled)	Disables OPEN commands	No effect	Disables OPEN commands
Open	Closes the gate	Closes the gate	No effect (OPEN disabled)	No effect	Saves the OPEN command and closes at releases	Disables OPEN commands
At closure	Stops gate motor and opens after next pulse	No effect	Stops operation	No effect	Reverses gate movement	Stops operation and reverses after release
At opening	Stops gate motor and closes after next pulse	No effect	Stops operation	Reverses gate movement	No effect	Stops operation and reverses after release
Logic "D" Condominium C=1 d=0 E=1						
Pulses						
Gate status	Open A	Open B	Stop	Opening safety devices	Closing safety devices	OP/CL safety devices
Closed	Opens gate and recloses after pause time	Partially opens the leaf and recloses after pause time	No effect (OPEN disabled)	Disables OPEN commands	No effect	Disables OPEN commands
Open in pause	P=0 Closes immediately P=1 Reloads pause time; if held down, it stops gate movement; on release, it recloses after pause time	Recloses the gate immediately	Stops operation	No effect	O=0 at release, and providing pause time has elapsed, recloses after 5 seconds; otherwise, it recloses when pause time is up	O=0 at release, and providing pause time has elapsed, recloses after 5 seconds; otherwise, it recloses when pause time is up
At closure	Reverses gate movement	No effect	Stops operation	No effect	Reverses gate movement	Stops operation and reverses after release
At opening	No effect	No effect	Stops operation	Reverses gate movement	No effect	Stops operation and reverses after release

14. HOW TO SECURE THE BOARD

The outdoor enclosure is designed to house the control unit, the toroidal transformer and any buffer batteries (Optional).

To secure the toroidal transformer and the board support, consult the specific instructions.

To secure the control board, follow the instructions below:

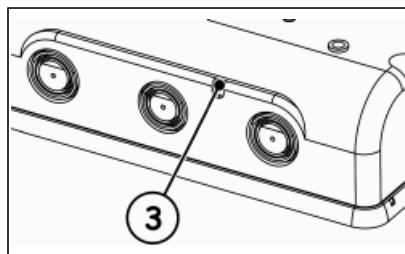
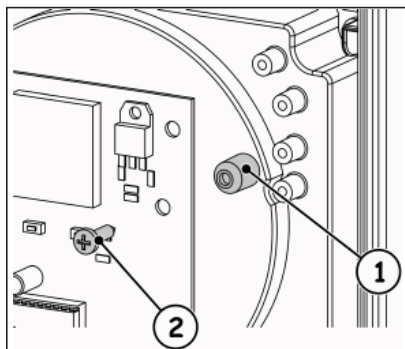
1. Position the supplied spacers (Ref. ①) on the columns identified by the following letters: **D-L-O-P-R-H-E**.
2. Secure the board using the supplied screws (Ref. ②).

 The spacer located on letter **O** serves only as a rest for the board.

3. Locate the cables required for your installation.
4. To position and wire the battery kit, refer to the relevant instructions.



If you are using the battery kit, YOU MUST clear the pre-drilled hole in the lower part of the enclosure (Ref. ③) as specified by current safety laws.



5. FAAC declina cualquier responsabilidad derivada de un uso impropio o diverso del previsto.
6. No instalen el aparato en atmósfera explosiva; la presencia de gas o humos inflamables constituye un grave peligro para la seguridad.
7. Los elementos constructivos mecánicos deben estar de acuerdo con lo establecido en las Normas EN 12604 y EN 12605.
8. Por los países no pertenecientes a la CEE, además de las referencias normativas nacionales, para obtener un nivel de seguridad adecuado, deben seguirse las Normas arriba indicadas.
9. FAAC no es responsable del incumplimiento de las buenas técnicas de fabricación de los circuitos que van a motorizar, así como de las deformaciones que pudieran intervenir en la utilización.
10. La instalación debe ser realizada de conformidad con las Normas EN 12453 y EN 12445. El nivel de seguridad del automatismo debe ser C+D.
11. Quiten la alimentación eléctrica y desconecten las baterías antes de efectuar cualquier intervención en la instalación.
12. Coloquen en la red de alimentación del automatismo un interruptor omnipolar con distancia de apertura de los contactos igual o superior a 3 mm. Se aconseja usar un magnetotérmico de 6A con interrupción omnipolar.
13. Comprueben que la instalación disponga línea arriba de un interruptor diferencial con umbral de 0,03 A.
14. Verifiquen que la instalación de tierra esté correctamente realizada y conecten los partes metálicos del cierre.
15. El automatismo dispone de un dispositivo de seguridad antiaplastamiento constituido por un control de presión. No obstante, se debe comprobar el umbral de intervención según lo previsto en las Normas indicadas en el punto 10.
16. Los dispositivos de seguridad (norma EN 12978) permiten proteger posibles áreas de peligro de Riesgos mecánicos de movimiento, como por el, aplastamiento, anillado, caídas.
17. Para cada equipo se aconseja usar por lo menos una señalización luminosa, así como un cartel de señalización adecuadamente fijado a la estructura del bastidor, además de los dispositivos indicados en el "16".
18. FAAC declina toda responsabilidad relativa a la seguridad y al buen funcionamiento del automatismo si se utilizan componentes de la instalación que no sean de producción FAAC.
19. Para el mantenimiento utilicen exclusivamente piezas originales FAAC.
20. No efectúen ninguna modificación en los componentes que forman parte del sistema de automatización.
21. El instalador debe proporcionar todas las informaciones relativas al funcionamiento del sistema en caso de emergencia y entregar al usuario del equipo el manual de advertencias que se adjunta al producto.
22. No permitan que niños o personas se detengan en proximidad del producto durante su funcionamiento.
23. La aplicación no puede ser utilizada por niños, personas con reducida capacidad física, mental, sensorial o personas sin experiencia o la necesaria formación.
24. Mantengan lejos del alcance los niños los radiomóviles o cualquier otro emisor de impulso, para evitar que el automatismo pueda ser accionado involuntariamente.
25. Solo puede tratarse entre los hojas si la cancela está completamente abierta.
26. El usuario debe abstenerse de intentar reparar o de intervenir directamente, y debe dirigirse exclusivamente a personal cualificado FAAC o a centros de asistencia FAAC.
27. Todo lo que no esté previsto expresamente en las presentes instrucciones debe entenderse como no permitido.

DEUTSCH

HINWEISE FÜR DEN INSTALLATIONSTECHNIKER ALLGEMEINE SICHERHEITSVORSCHRIFTEN



ACHTUNG! Um die Sicherheit von Personen zu gewährleisten, sollte die Anleitung aufmerksam befolgt werden. Eine falsche Installation oder ein fehlerhafter Betrieb des Produktes können zu schwerwiegenden Personenschäden führen.

1. Bevor mit der Installation des Produktes begonnen wird, sollten die Anleitungen aufmerksam gelesen werden.
2. Das Verpackungsmaterial (Kunststoff, Styropor, usw.) sollte nicht in Reichweite von Kindern aufbewahrt werden, da es eine potentielle Gefahrenquelle darstellt.
3. Die Anleitung sollte aufbewahrt werden, um auch in Zukunft Bezug auf sie nehmen zu können.
4. Dieses Produkt wurde ausschließlich für den in diesen Unterlagen angegebenen Gebrauch entwickelt und hergestellt. Jeder andere Gebrauch, der nicht ausdrücklich angegeben ist, könnte die Unversehrtheit des Produktes beeinträchtigen und/oder eine Gefahrenquelle darstellen.
5. Die Firma FAAC lehnt jede Haftung für Schäden, die durch unsachgemäßen oder nicht bestimmungsgemäßen Gebrauch der Automation verursacht werden, ab.
6. Das Gerät sollte nicht in explosionsgefährdeten Umgebungen installiert werden; das Vorhandensein von entflammbaren Gasen oder Rauch stellt ein schwerwiegendes Sicherheitsrisiko dar.
7. Die mechanischen Bauelemente müssen den Anforderungen der Normen EN 12604 und EN 12605 entsprechen.
8. Für Länder, die nicht der Europäischen Union angehören, sind für die Gewährleistung eines entsprechenden Sicherheitsniveaus neben den nationalen gesetzlichen Bestimmungsvorschriften die oben aufgeführten Normen zu beachten.
9. Die Firma FAAC übernimmt keine Haftung im Falle von nicht fachgerechten Ausführungen bei der Herstellung der anzulebenden Schließvorrichtungen sowie bei Deformationen, die eventuell beim Betrieb entstehen.
10. Die Installation muß unter Beachtung der Normen EN 12453 und EN 12445 erfolgen. Die Schweißarbeiten der Automation sollte C+D sein.
11. Vor der Ausführung jeglicher Eingriffe auf der Anlage sind die elektrische Versorgung und die Batterie abzunehmen.
12. Auf dem Versorgungsnetz der Automation ist ein omnipolarer Schalter mit Öffnungsabstand der Kontakte von über oder gleich 3 mm einzubauen. Darüber hinaus wird der Einsatz eines Magnetschutzschalters mit 6A mit omnipolarer Abschaltung empfohlen.
13. Es sollte überprüft werden, ob vor der Anlage ein Differentialschalter mit einer Auslöseschwelle von 0,03 A zwischengeschaltet ist.
14. Es sollte überprüft werden, ob die Erdungsanlage fachgerecht aufgeführt wurde. Die Metallteile der Schaltung sollten an diese Anlage angeschlossen werden.
15. Die Automation verfügt über eine eingebaute Sicherheitsvorrichtung für den Quetschschutz, die aus einer Drehmomentkontrolle besteht. Es ist in jedem Falle erforderlich, deren Eingriffsschwelle gemäß der Vorgaben der unter Punkt 10 angegebenen Vorschriften zu überprüfen.
16. Die Sicherheitsvorrichtungen (Norm EN 12978) ermöglichen den Schutz eventueller Gefahrenbereiche vor mechanischen Bewegungsrisiken, wie zum Beispiel Quetschungen, Mitschleifen oder Schnittverletzungen.
17. Für jede Anlage wird der Einsatz von mindestens einem Leuchtsignal empfohlen sowie eines Hinweisschildes, das über eine entsprechende Befestigung mit dem Aufbau des Tors verbunden wird. Darüber hinaus sind die unter Punkt "16" erwähnten Vorrichtungen einzusetzen.
18. Die Firma FAAC lehnt jede Haftung hinsichtlich der Sicherheit und des störungsfreien Betriebs der Automation ab, soweit Komponenten auf der Anlage eingesetzt werden, die nicht im Hause FAAC hergestellt wurden.
19. Bei der Instandhaltung sollten ausschließlich Originalteile der Firma FAAC verwendet werden.
20. Auf den Komponenten, die Teil des Automationsystems sind, sollten keine Veränderungen vorgenommen werden.
21. Der Installateur sollte alle Informationen hinsichtlich des manuellen Betriebs des Systems in Notfällen liefern und dem Betreiber der Anlage das Anleitungsblatt, das dem Produkt beigelegt ist, übergeben.
22. Weder Kinder noch Erwachsene sollten sich während des Betriebs in der unmittelbaren Nähe der Automation aufhalten.
23. Die Anwendung darf nicht von Kindern, von Personen mit verminderteter körperlicher, geistiger oder sensoreller Fähigkeit oder Personen ohne Erfahrungen oder der erforderlichen Ausbildung verwendet werden.
24. Die Funktionen und alle anderen Impulsgeber sollten außerhalb der Reichweite von Kindern aufbewahrt werden, um ein versehentliches Aktivieren der Automation zu vermeiden. In Notfällen können FAAC zu wenden.
25. Der Durchgang oder die Durchfahrt zwischen den Flügeln darf lediglich bei vollständig geöffnetem Tor erfolgen.
26. Der Benutzer darf direkt keine Versuche für Reparaturen oder Arbeiten vornehmen und hat sich ausschließlich an qualifiziertes Fachpersonal FAAC oder an Kundenberater FAAC zu wenden.
27. Alle Vorgehensweisen, die nicht ausdrücklich in der vorliegenden Anleitung vorgesehen sind, sind nicht zulässig.

NEDERLANDS

WAARSCHUWINGEN VOOR DE INSTALLATEUR ALGEMENE VEILIGHEIDSVORSCHRIFTEN



LET OP! Het is belangrijk voor de veiligheid dat deze hele instructie zorgvuldig wordt opgevolgd. Een onjuiste installatie of foutief gebruik van het product kunnen ernstig persoonlijk letsel veroorzaken.

1. Lees de instructies aandachtig door alvorens te beginnen met de installatie van het product.
2. De verpakkingsmaterialen (plastic, polystyreen, enz.) mogen niet binnen het bereik van kinderen worden gelaten, want zij vormen een mogelijk bron van gevaar.
3. Bewaar de installatie- en gebruiksaanwijzing in de toestand.
4. Dit product is uitsluitend ontworpen en gebouwd voor het doel dat in deze documentatie wordt aangegeven. Elk ander gebruik, dat niet uitdrukkelijk wordt vermeld, zou het product kunnen beschadigen en/of een bron van gevaar kunnen vormen.
5. FAAC aanvaardt geen enkele aansprakelijkheid voor schade die ontstaat uit oneigenlijk gebruik of ander gebruik dan waarvoor het automatische systeem is bedoeld.
6. Installeer het apparaat niet in een explosiegevaarlijke omgeving; de aanwezigheid van ontvlambare gasen of dampen vormt een ernstig gevaar voor de veiligheid.
7. De mechanische bouwelementen moeten in overeenstemming zijn met de bepalingen van de normen EN 12604 en EN 12605.
8. Voor niet-EEG landen moeten, om een goed veiligheidsniveau te bereiken, behalve de nationale voorschriften ook de bovenstaande normen in acht worden genomen.
9. FAAC is niet aansprakelijk als de regels der goede techniek niet in acht worden genomen bij de bouw van het sluitwerk dat gemotoriseerd moet worden, noch voor vervormingen die zouden kunnen ontstaan bij het gebruik.
10. De installatie dient te geschieden in overeenstemming met de normen EN 12453 en EN 12445. Het veiligheidsniveau van het automatische systeem moet C+D zijn.
11. Alvorens ingrepen te gaan verrichten op de installatie moet de elektrische voeding worden weggenomen en moeten de batterijen worden afgekoppeld.
12. Zorg op het voedsingsnet van het automatische systeem voor een meerpoolge schakelaar met een opening tussen de contacten van 3 mm of meer. Het wordt geadviseerd een magnetothermische schakelaar van 6A te gebruiken met meerpoolige ontbrekking.
13. Controleer of er bovenstrooms van de installatie een differentieel-schakelaar is geïnstalleerd met een limiet van 0,03 A.
14. Controleer of de oordingsmaterialie vakkundig is aangelegd en sluit er de metalen delen van het sluitsysteem op aan.
15. Het automatische systeem beschikt over een intrinsieke beveiliging tegen inklemming, bestaande uit een controle van het koppel. De inschakelmethode hiervan dient echter te worden gecontroleerd volgens de bepalingen van de normen die worden vermeld onder punt 10.
16. De veiligheidsvoorzieningen (norm EN 12978) maken het mogelijk eventuele gevaarlijke gebieden te beschermen tegen Mechanische gevaren door beweging, zoals bijvoorbeeld inklemming, meesleuren of amputatie.
17. Het wordt voor elke installatie geadviseerd minstens één lichtsignaal te gebruiken alsook een waarschuwingsbord dat goed op de constructie van het hang- en sluitwerk dient te worden bevestigd, afgezien nog van de voorzieningen die genoemd zijn onder punt "16".
18. FAAC aanvaardt geen enkele aansprakelijkheid voor wat betreft de veiligheid en de goede werking van het automatische systeem, als er in de installatie gebruik gemaakt wordt van componenten die niet door FAAC zijn geproduceerd.
19. Gebruik voor het onderhoud uitsluitend originele FAAC-onderdelen.
20. Vericht geen wijzigingen op componenten die deel uitmaken van het automatische systeem.
21. De installateur dient alle informatie te verstrekken over de handbediening van het systeem in noodgevallen, en moet de gebruiker van de installatie het bij het product geleverde boekje met aanwijzingen overhandigen.
22. De toepassing mag niet worden gebruikt door kinderen, personen met lichamelijke, geestelijke en sensoriele beperkingen, of door personen zonder ervaring of de benodigde training.
23. De toepassing mag niet worden gebruikt door kinderen, personen met lichamelijke, geestelijke en sensoriele beperkingen, of door personen zonder ervaring of de benodigde training. Sta het niet toe dat kinderen of volwassenen zich ophouden in de buurt van het product terwijl dit in werking is.
24. Hou rad-afstandsbedieningen of alle andere impulsgevers buiten het bereik van kinderen, om te voorkomen dat het automatische systeem onopzettelijk kan worden aangevonden.
25. Ga ophouden tussen de vleugels door als het hek helemaal geopend is.
27. De gebruiker wordt verzocht zijn pogingen ondernemen tot reparaties of andere directe ingrepen, en dient zich uitsluitend te wenden tot gekwalificeerd en geautoriseerd FAAC-personeel of een erkend FAAC-servicecentrum.
28. Alles wat niet uitdrukkelijk in deze instructies wordt aangegeven, is niet toegestaan.

Le descrizioni e le illustrazioni del presente manuale non sono impegnative. La FAAC si riserva il diritto, lasciando inalterate le caratteristiche essenziali dell'apparecchiatura, di apportare in qualunque momento e senza impegnarsi ad aggiornare la presente pubblicazione, le modifiche che essa ritiene convenienti per miglioramenti tecnici o per qualsiasi altra esigenza di carattere costruttivo o commerciale.

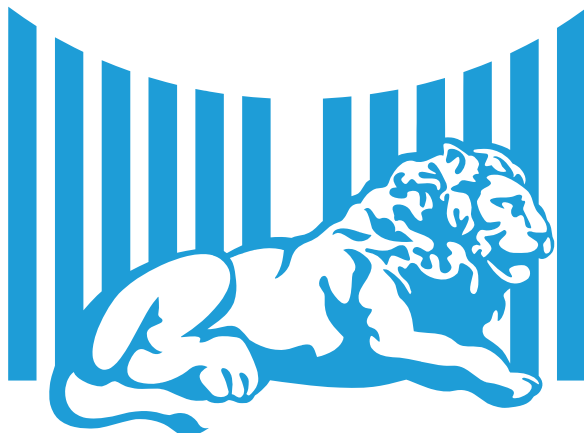
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732489 - Rev. D