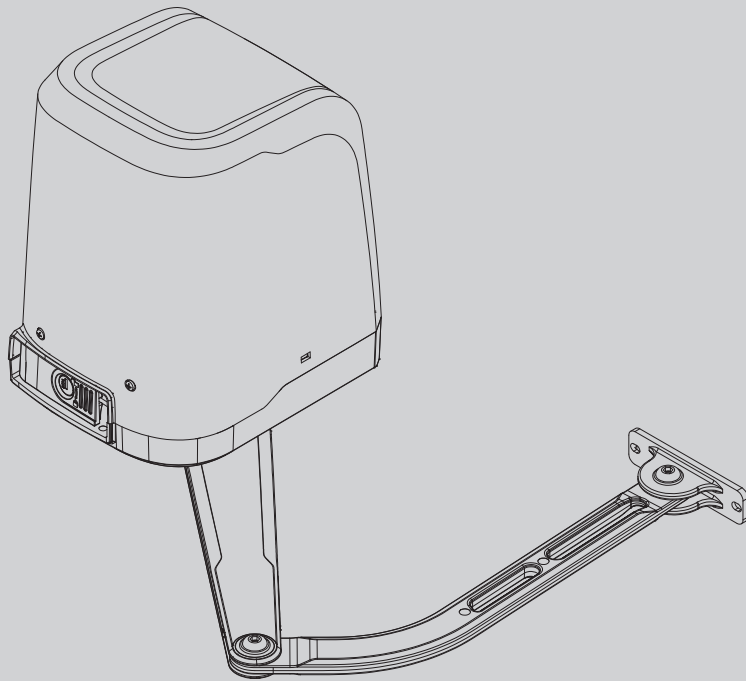




D812939 00096_03 09-07-18

AUTOMAZIONI A BRACCIO PER CANCELLI A BATTENTE
ARM AUTOMATIONS FOR SWING GATES
AUTOMATIONS A BRAS POUR PORTAILS BATTANTS
ARM AUTOMATIONEN FUER FLUGELGITERTIRE
AUTOMATIZACIONES A BRAZO PARA PORTONES CON BATIENDE
AUTOMATIZAÇÕES DE BRAÇO PARA PORTÕES DE BATENTE



ISTRUZIONI DI INSTALLAZIONE
INSTALLATION MANUAL
INSTRUCTIONS D'INSTALLATION
MONTAGEANLEITUNG
INSTRUCCIONES DE INSTALACION
INSTRUÇÕES DE USO E DE INSTALAÇÃO

VIRGO SMART BT A



((ER-Ready))

AZIENDA CON
SISTEMA DI GESTIONE
CERTIFICATO DA DNV GL
= ISO 9001 =
= ISO 14001 =

Attenzione! Leggere attentamente le "Avvertenze" all'interno! **Caution!** Read "Warnings" inside carefully! **Attention!** Veuillez lire attentivement les Avertissements qui se trouvent à l'intérieur!
Achtung! Bitte lesen Sie aufmerksam die „Hinweise“ im Inneren! ¡**Atención!** Leer atentamente las "Advertencias" en el interior! **Atenção!** Ler atentamente as "Instruções" que se encontram no interior!

WARNING! Important safety instructions. Carefully read and comply with the Warnings and Instructions that come with the product as improper use can cause injury to people and animals and damage to property. Keep the instructions for future reference and hand them on to any new users.

This product is meant to be used only for the purpose for which it was explicitly installed. Any other use constitutes improper use and, consequently, is hazardous. The manufacturer cannot be held liable for any damage as a result of improper, incorrect or unreasonable use.

GENERAL SAFETY

Thank you for choosing this product. The Firm is confident that its performance will meet your operating needs.

This product meets recognized technical standards and complies with safety provisions when installed correctly by qualified, expert personnel (professional installer).

If installed and used correctly, the automated system will meet operating safety standards. Nonetheless, it is advisable to observe certain rules of behaviour so that accidental problems can be avoided:

- Keep adults, children and property out of range of the automated system, especially while it is moving.
- Do not allow children to play or stand within range of the automated system.
- The unit can be used by children over 8 years old and by people with reduced physical, sensory or mental capabilities or with no experience or necessary knowledge on condition they are supervised or trained about the safe use of the equipment and understand the risks involved. Children must not play with the unit. Cleaning and maintenance must not be performed by unsupervised children.
- Children must be supervised to ensure they do not play with the device. Do not allow children to play with the fixed controls. Keep remote controls out of reach of children.
- Do not work near hinges or moving mechanical parts.
- Do not hinder the leaf's movement and do not attempt to open the door manually unless the actuator has been released with the relevant release knob.
- Keep out of range of the motorized door or gate while they are moving.
- Keep remote controls or other control devices out of reach of children in order to avoid the automated system being operated inadvertently.
- The manual release's activation could result in uncontrolled door movements if there are mechanical faults or loss of balance.
- When using roller shutter openers: keep an eye on the roller shutter while it is moving and keep people away until it has closed completely. Exercise care when activating the release, if such a device is fitted, as an open shutter could drop quickly in the event of wear or breakage.
- The breakage or wear of any mechanical parts of the door (operated part), such as cables, springs, supports, hinges, guides..., may generate a hazard. Have the system checked by qualified, expert personnel (professional installer) at regular intervals according to the instructions issued by the installer or manufacturer of the door.

- When cleaning the outside, always cut off mains power.
- Keep the photocells' optics and illuminating indicator devices clean. Check that no branches or shrubs interfere with the safety devices.
- Do not use the automated system if it is in need of repair. In the event the automated system breaks down or malfunctions, cut off mains power to the system; do not attempt to repair or perform any other work to rectify the fault yourself and instead call in qualified, expert personnel (professional installer) to perform the necessary repairs or maintenance. To allow access, activate the emergency release (where fitted).
- If any part of the automated system requires direct work of any kind that is not contemplated herein, employ the services of qualified, expert personnel (professional installer).
- At least once a year, have the automated system, and especially all safety devices, checked by qualified, expert personnel (professional installer) to make sure that it is undamaged and working properly.
- A record must be made of any installation, maintenance and repair work and the relevant documentation kept and made available to the user on request.
- Failure to comply with the above may result in hazardous situations.



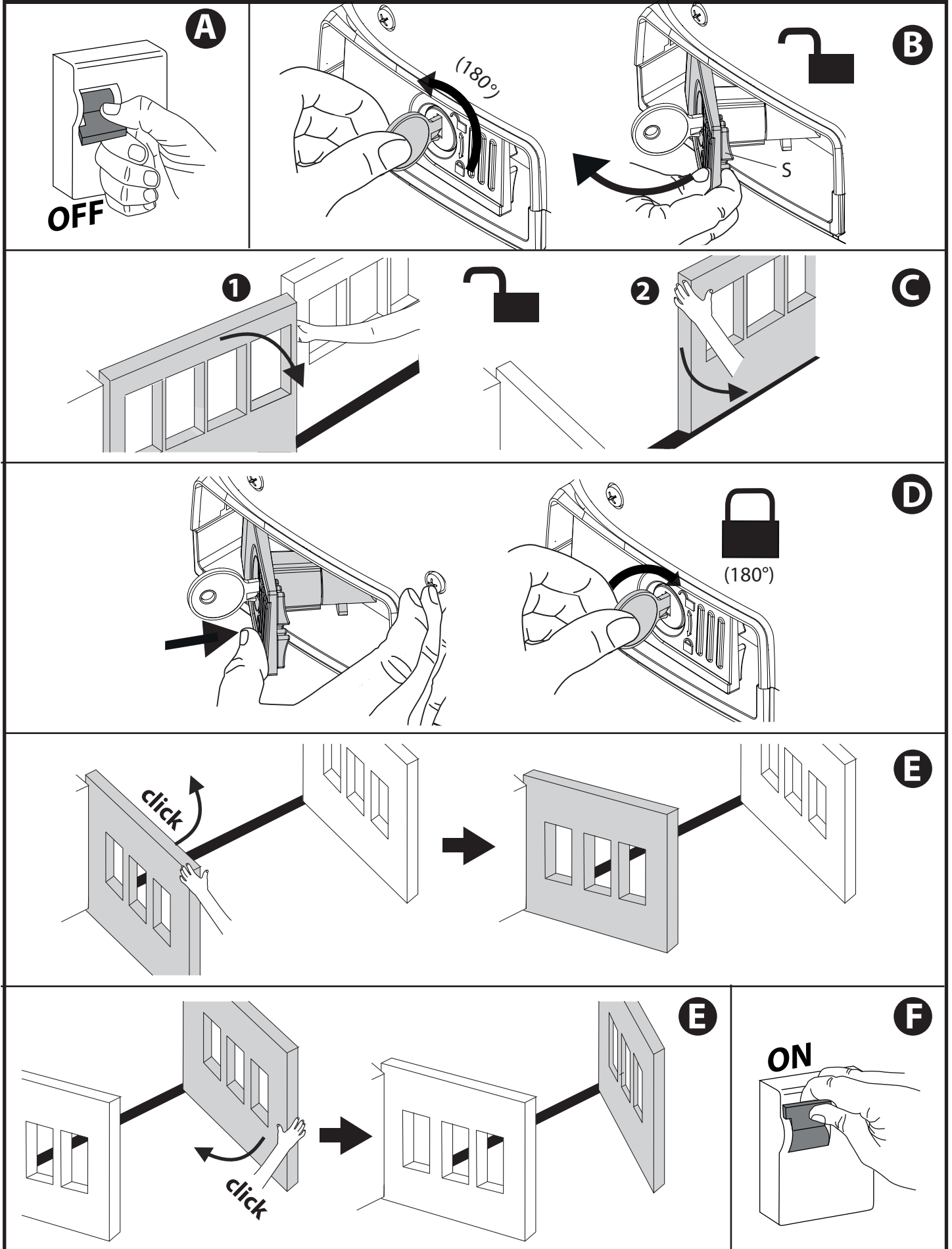
SCRAPPING

Materials must be disposed of in accordance with the regulations in force. Do not throw away your discarded equipment or used batteries with household waste. You are responsible for taking all your waste electrical and electronic equipment to a suitable recycling centre.

Anything that is not explicitly provided for in the user guide is not allowed. The operator's proper operation can only be guaranteed if the instructions given herein are complied with. The Firm shall not be answerable for damage caused by failure to comply with the instructions featured herein.

While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed opportune to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

FIG. 1



INSTALLER WARNINGS

WARNING! Important safety instructions. Carefully read and comply with all the warnings and instructions that come with the product as incorrect installation can cause injury to people and animals and damage to property. The warnings and instructions give important information regarding safety, installation, use and maintenance. Keep hold of instructions so that you can attach them to the technical file and keep them handy for future reference.

GENERAL SAFETY

This product has been designed and built solely for the purpose indicated herein. Uses other than those indicated herein might cause damage to the product and create a hazard.

- The units making up the machine and its installation must meet the requirements of the following European Directives, where applicable: 2014/30/UE, 2014/35/UE, 2006/42/UE, 2011/305/UE, 2014/53/UE and later amendments. For all countries outside the UE, it is advisable to comply with the standards mentioned, in addition to any national standards in force, to achieve a good level of safety.
- The Manufacturer of this product (hereinafter referred to as the "Firm") disclaims all responsibility resulting from improper use or any use other than that for which the product has been designed, as indicated herein, as well as for failure to apply Good Practice in the construction of entry systems (doors, gates, etc.) and for deformation that could occur during use.
- Installation must be carried out by qualified personnel (professional installer, according to EN 12635), in compliance with Good Practice and current code.
- Before installing the product, make all structural changes required to produce safety gaps and to provide protection from or isolate all crushing, shearing and dragging hazard areas and danger zones in general in accordance with the provisions of standards EN 12604 and 12453 or any local installation standards. Check that the existing structure meets the necessary strength and stability requirements.
- Before commencing installation, check the product for damage.
- The Firm is not responsible for failure to apply Good Practice in the construction and maintenance of the doors, gates, etc. to be motorized, or for deformation that might occur during use.
- Make sure the stated temperature range is compatible with the site in which the automated system is due to be installed.
- Do not install this product in an explosive atmosphere: the presence of flammable fumes or gas constitutes a serious safety hazard.
- Disconnect the electricity supply before performing any work on the system. Also disconnect buffer batteries, if any are connected.
- Before connecting the power supply, make sure the product's ratings match the mains ratings and that a suitable residual current circuit breaker and overcurrent protection device have been installed upline from the electrical system. Have the automated system's mains power supply fitted with a switch or omnipolar thermal-magnetic circuit breaker with a contact separation that provide full disconnection under overvoltage category III conditions.
- Make sure that upline from the mains power supply there is a residual current circuit breaker that trips at no more than 0.03A as well as any other equipment required by code.
- Make sure the earth system has been installed correctly: earth all the metal parts belonging to the entry system (doors, gates, etc.) and all parts of the system featuring an earth terminal.
- Installation must be carried out using safety devices and controls that meet standards EN 12978 and EN 12453.
- Impact forces can be reduced by using deformable edges.
- In the event impact forces exceed the values laid down by the relevant standards, apply electro-sensitive or pressure-sensitive devices.
- Apply all safety devices (photocells, safety edges, etc.) required to keep the area free of impact, crushing, dragging and shearing hazards. Bear in mind the standards and directives in force, Good Practice criteria, intended use, the installation environment, the operating logic of the system and forces generated by the automated system.
- Apply all signs required by current code to identify hazardous areas (residual risks). All installations must be visibly identified in compliance with the provisions of standard EN 13241-1.
- Once installation is complete, apply a nameplate featuring the door/gate's data.
- This product cannot be installed on leaves incorporating doors (unless the motor can be activated only when the door is closed).
- If the automated system is installed at a height of less than 2.5 m or is accessible, the electrical and mechanical parts must be suitably protected.
- For roller shutter automation only
 - 1) The motor's moving parts must be installed at a height greater than 2.5 m above the floor or other surface from which they may be reached.
 - 2) The gearmotor must be installed in a segregated and suitably protected space so that it cannot be reached without the aid of tools.
- Install any fixed controls in a position where they will not cause a hazard, away from moving parts. More specifically, hold-to-run controls must be positioned within direct sight of the part being controlled and, unless they are key operated, must be installed at a height of at least 1.5 m and in a place where they cannot be reached by the public.
- Apply at least one warning light (flashing light) in a visible position, and also attach a Warning sign to the structure.
- Attach a label near the operating device, in a permanent fashion, with information on how to operate the automated system's manual release.
- Make sure that, during operation, mechanical risks are avoided or relevant protective measures taken and, more specifically, that nothing can be banged, crushed, caught or cut between the part being operated and surrounding parts.
- Once installation is complete, make sure the motor automation settings are correct and that the safety and release systems are working properly.
- Only use original spare parts for any maintenance or repair work. The Firm disclaims all responsibility for the correct operation and safety of the automated system if parts from other manufacturers are used.
- Do not make any modifications to the automated system's components unless explicitly authorized by the Firm.
- Instruct the system's user on what residual risks may be encountered, on the control systems that have been applied and on how to open the system manually in an emergency. Give the user guide to the end user.

- Dispose of packaging materials (plastic, cardboard, polystyrene, etc.) in accordance with the provisions of the laws in force. Keep nylon bags and polystyrene out of reach of children.

WIRING

WARNING! For connection to the mains power supply, use a multicore cable with a cross-sectional area of at least 5x1.5mm² or 4x1.5mm² when dealing with three-phase power supplies or 3x1.5mm² for single-phase supplies (by way of example, type H05RN-F cable can be used with a cross-sectional area of 4x1.5mm²). To connect auxiliary equipment, use wires with a cross-sectional area of at least 0.5 mm².

- Only use pushbuttons with a capacity of 10A-250V or more.
- Wires must be secured with additional fastening near the terminals (for example, using cable clamps) in order to keep live parts well separated from safety extra low voltage parts.
- During installation, the power cable must be stripped to allow the earth wire to be connected to the relevant terminal, while leaving the live wires as short as possible. The earth wire must be the last to be pulled taut in the event the cable's fastening device comes loose.

WARNING! safety extra low voltage wires must be kept physically separate from low voltage wires.

Only qualified personnel (professional installer) should be allowed to access live parts.

CHECKING THE AUTOMATED SYSTEM AND MAINTENANCE

Before the automated system is finally put into operation, and during maintenance work, perform the following checks meticulously:

- Make sure all components are fastened securely.
- Check starting and stopping operations in the case of manual control.
- Check the logic for normal or personalized operation.
- For sliding gates only: check that the rack and pinion mesh correctly with 2 mm of play along the full length of the rack; keep the track the gate slides on clean and free of debris at all times.
- For sliding gates and doors only: make sure the gate's running track is straight and horizontal and that the wheels are strong enough to take the weight of the gate.
- For cantilever sliding gates only: make sure there is no dipping or swinging during operation.
- For swing gates only: make sure the leaves' axis of rotation is perfectly vertical.
- For barriers only: before opening the door, the spring must be decompressed (vertical boom).
- Check that all safety devices (photocells, safety edges, etc.) are working properly and that the anti-crush safety device is set correctly, making sure that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.
- Impact forces can be reduced by using deformable edges.
- Make sure that the emergency operation works, where this feature is provided.
- Check opening and closing operations with the control devices applied.
- Check that electrical connections and cabling are intact, making extra sure that insulating sheaths and cable glands are undamaged.
- While performing maintenance, clean the photocells' optics.
- When the automated system is out of service for any length of time, activate the emergency release (see "EMERGENCY OPERATION" section) so that the operated part is made idle, thus allowing the gate to be opened and closed manually.
- If the power cord is damaged, it must be replaced by the manufacturer or their technical assistance department or other such qualified person to avoid any risk.
- If "D" type devices are installed (as defined by EN12453), connect in unverified mode, foresee mandatory maintenance at least every six months
- The maintenance described above must be repeated at least once yearly or at shorter intervals where site or installation conditions make this necessary.

WARNING!

Remember that the drive is designed to make the gate/door easier to use and will not solve problems as a result of defective or poorly performed installation or lack of maintenance



SCRAPPING

Materials must be disposed of in accordance with the regulations in force. Do not throw away your discarded equipment or used batteries with household waste. You are responsible for taking all your waste electrical and electronic equipment to a suitable recycling centre.

DISMANTLING

If the automated system is being dismantled in order to be reassembled at another site, you are required to:

- Cut off the power and disconnect the whole electrical system.
- Remove the actuator from the base it is mounted on.
- Remove all the installation's components.
- See to the replacement of any components that cannot be removed or happen to be damaged.

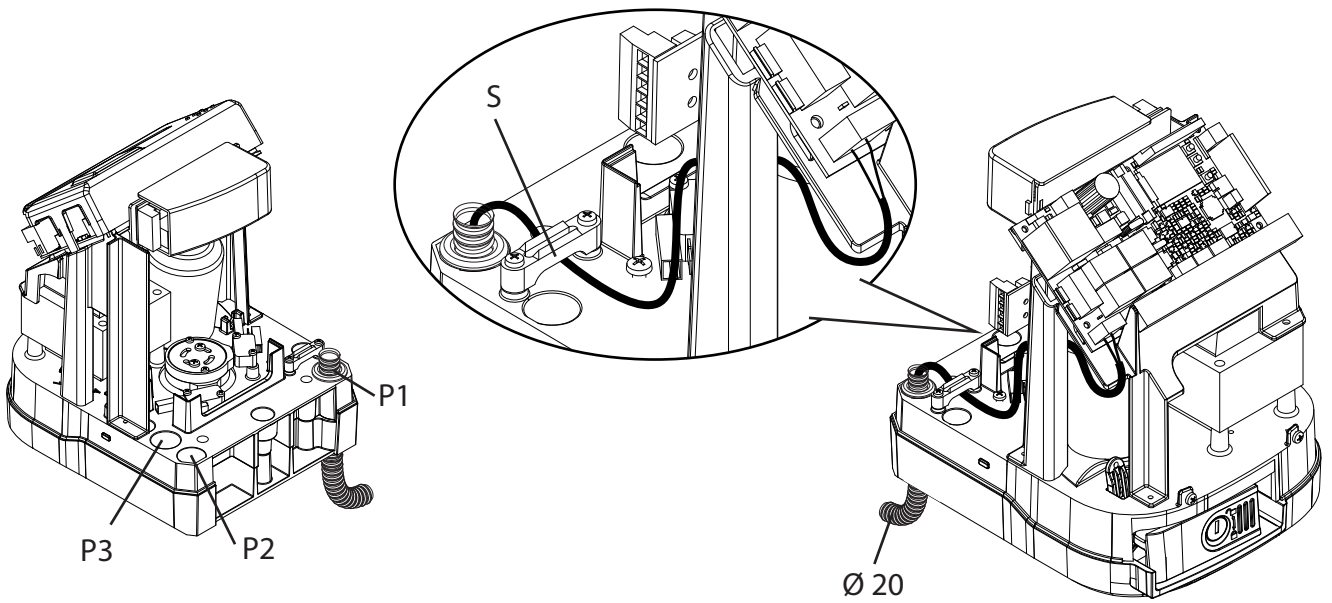
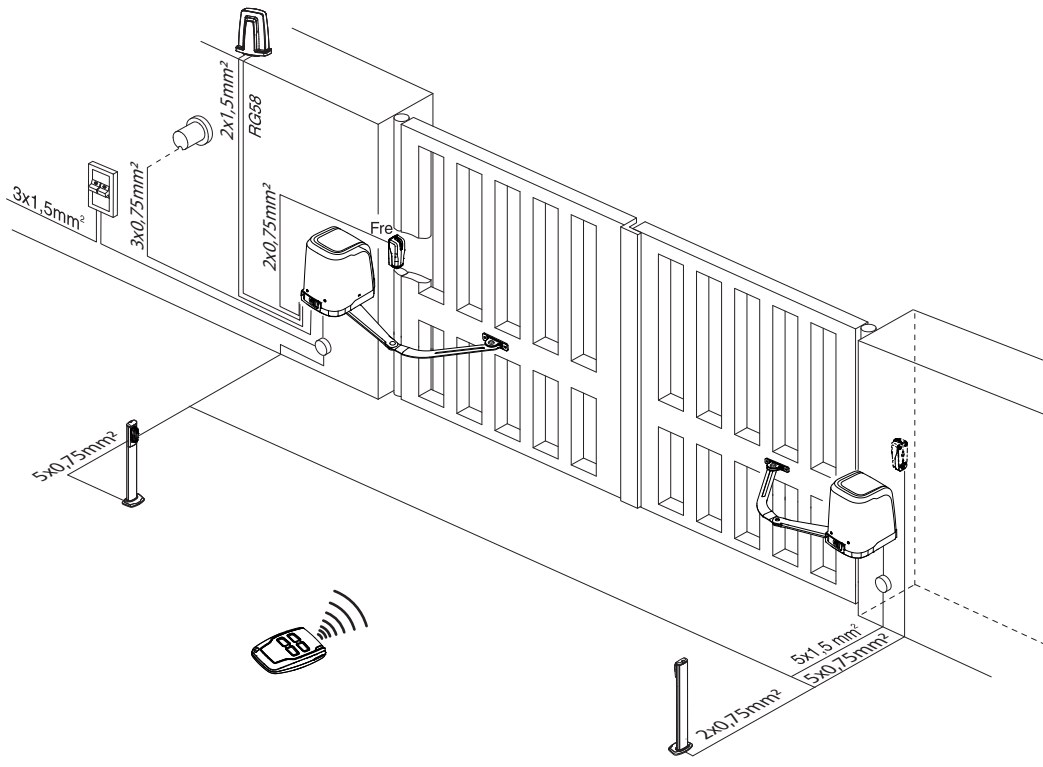
**DECLARATIONS OF CONFORMITY CAN BE FOUND AT <http://www.bft-automation.com/CE>
INSTRUCTIONS FOR USE AND ASSEMBLY CAN BE FOUND IN THE DOWN-LOAD SECTION.**

Anything that is not explicitly provided for in the installation manual is not allowed. The operator's proper operation can only be guaranteed if the information given is complied with. The Firm shall not be answerable for damage caused by failure to comply with the instructions featured herein.

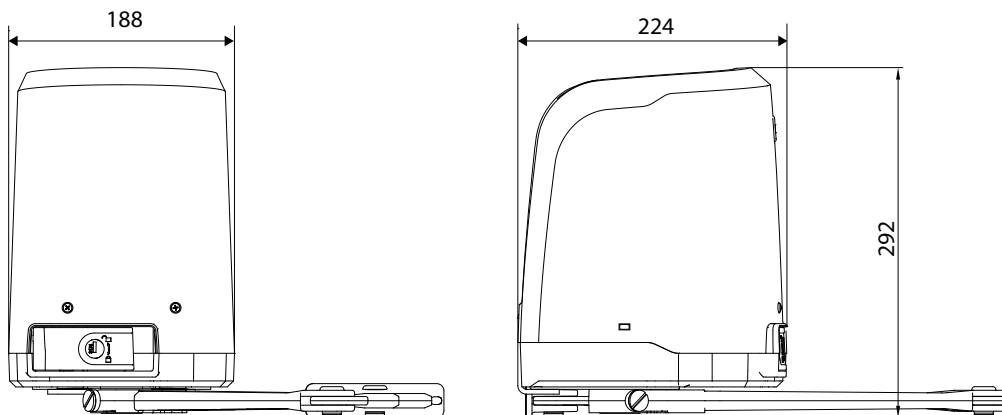
While we will not alter the product's essential features, the Firm reserves the right, at any time, to make those changes deemed opportune to improve the product from a technical, design or commercial point of view, and will not be required to update this publication accordingly.

INSTALLAZIONE VELOCE-QUICK INSTALLATION-INSTALLATION RAPIDE SCHNELLINSTALLATION-INSTALACIÓN RÁPIDA - INSTALAÇÃO RÁPIDA

A



B



ITALIANO

ENGLISH

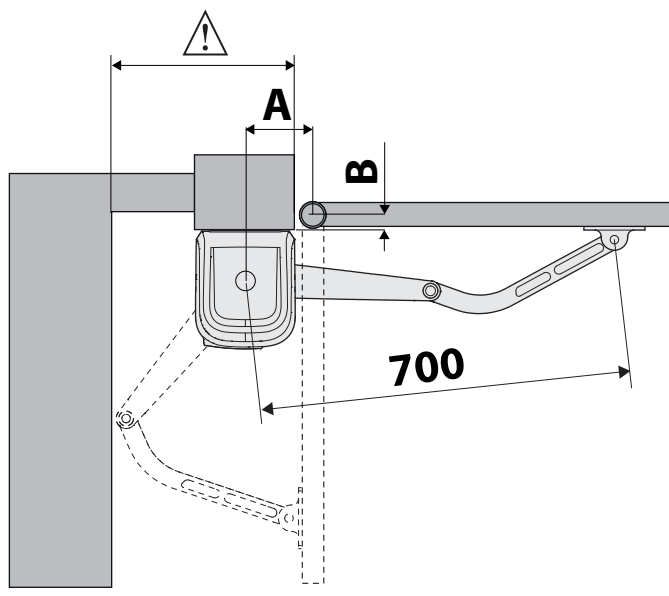
FRANÇAIS

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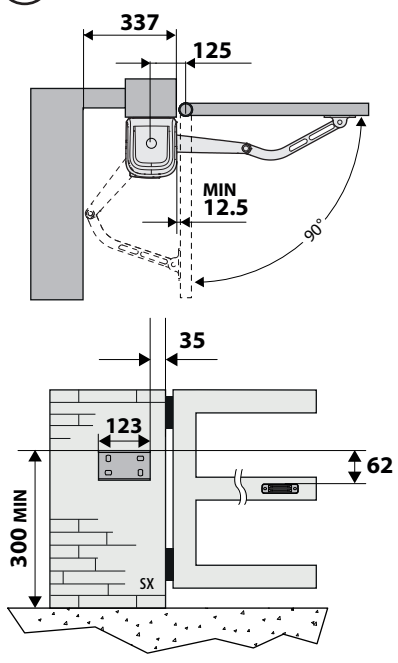
PORTUGUÊS

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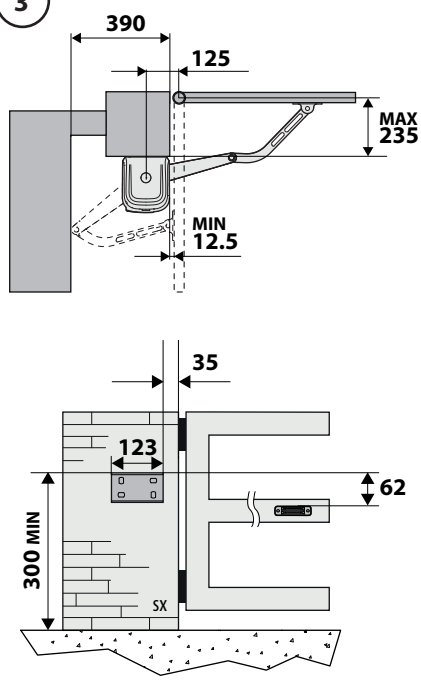


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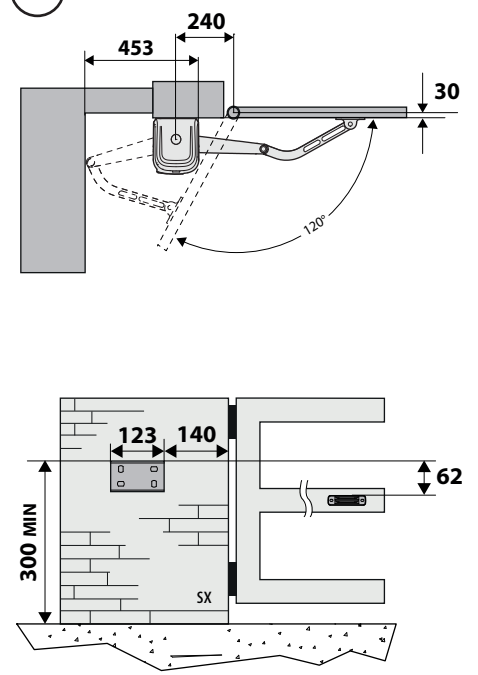
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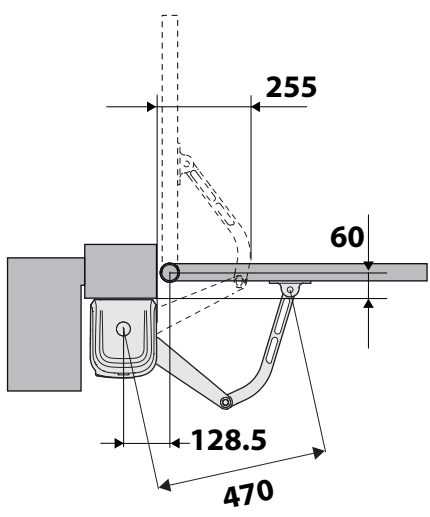


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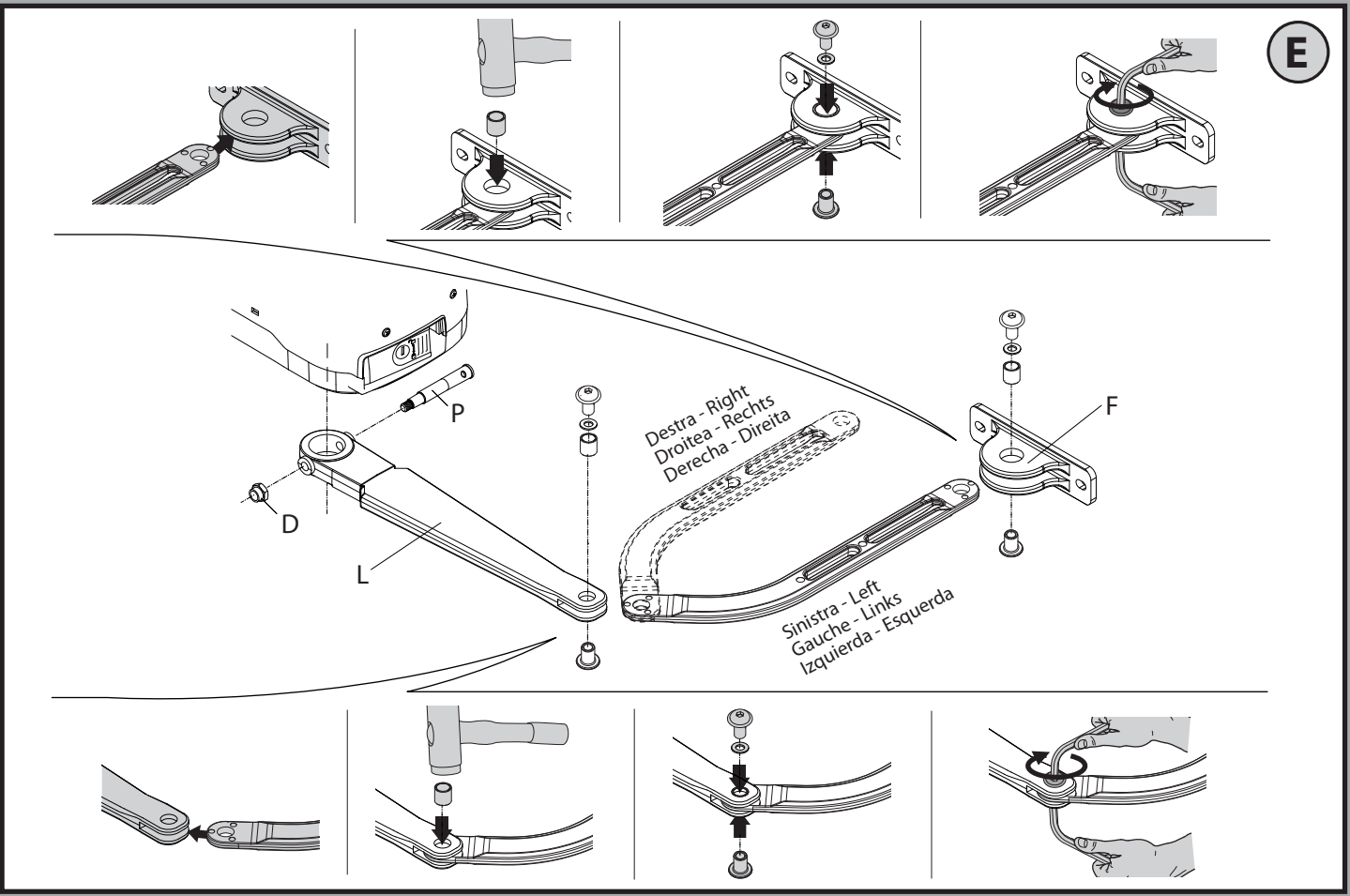
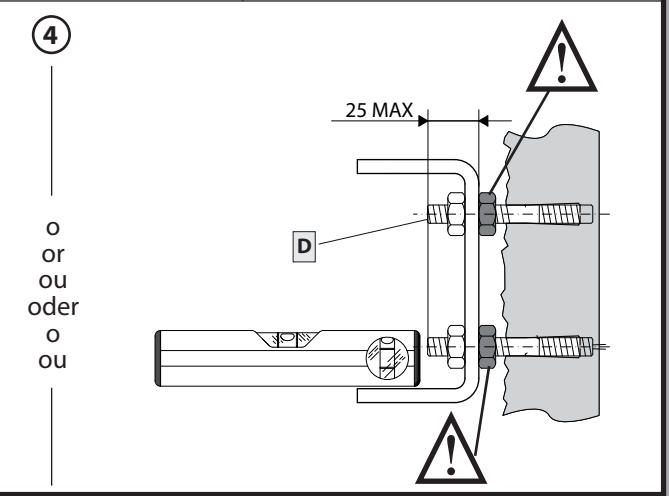
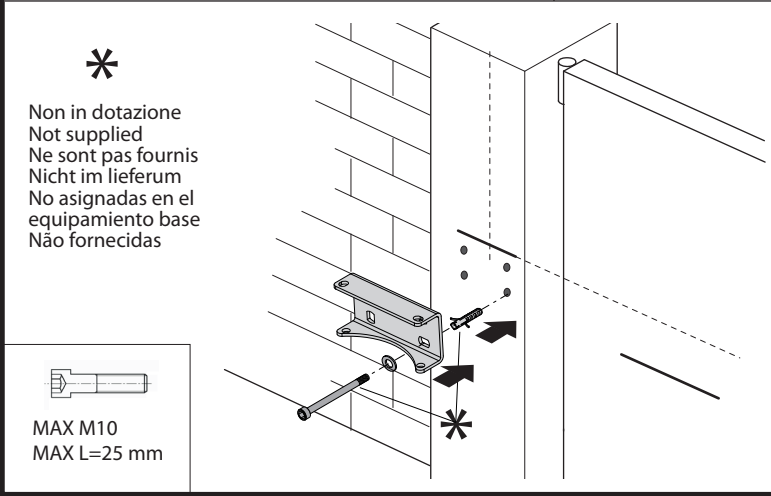
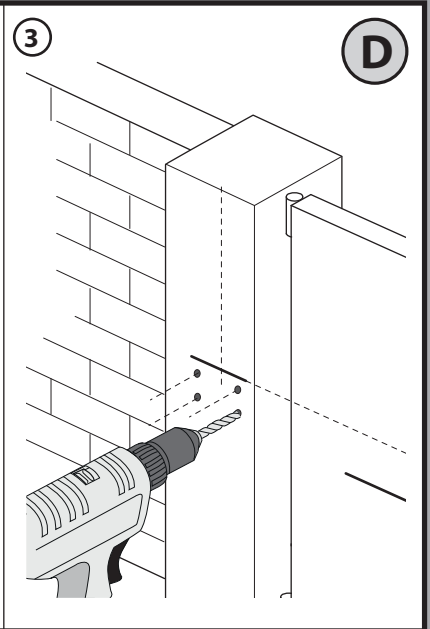
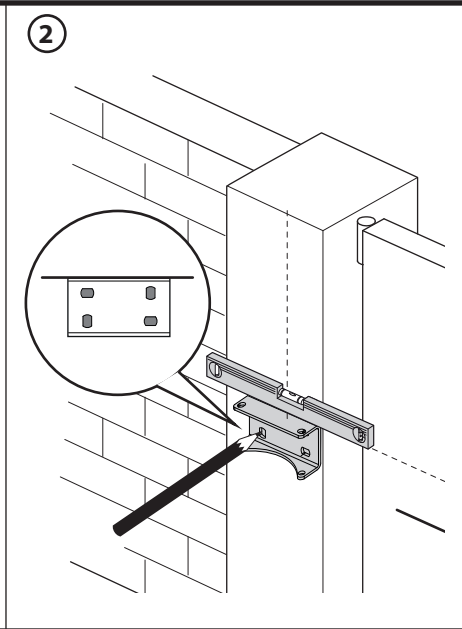
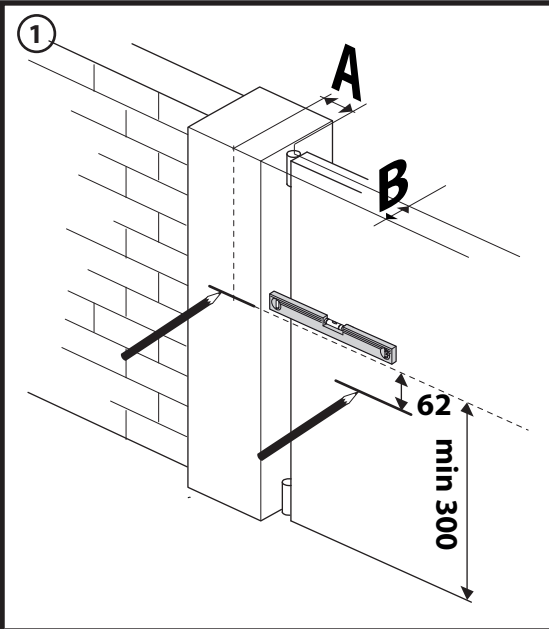


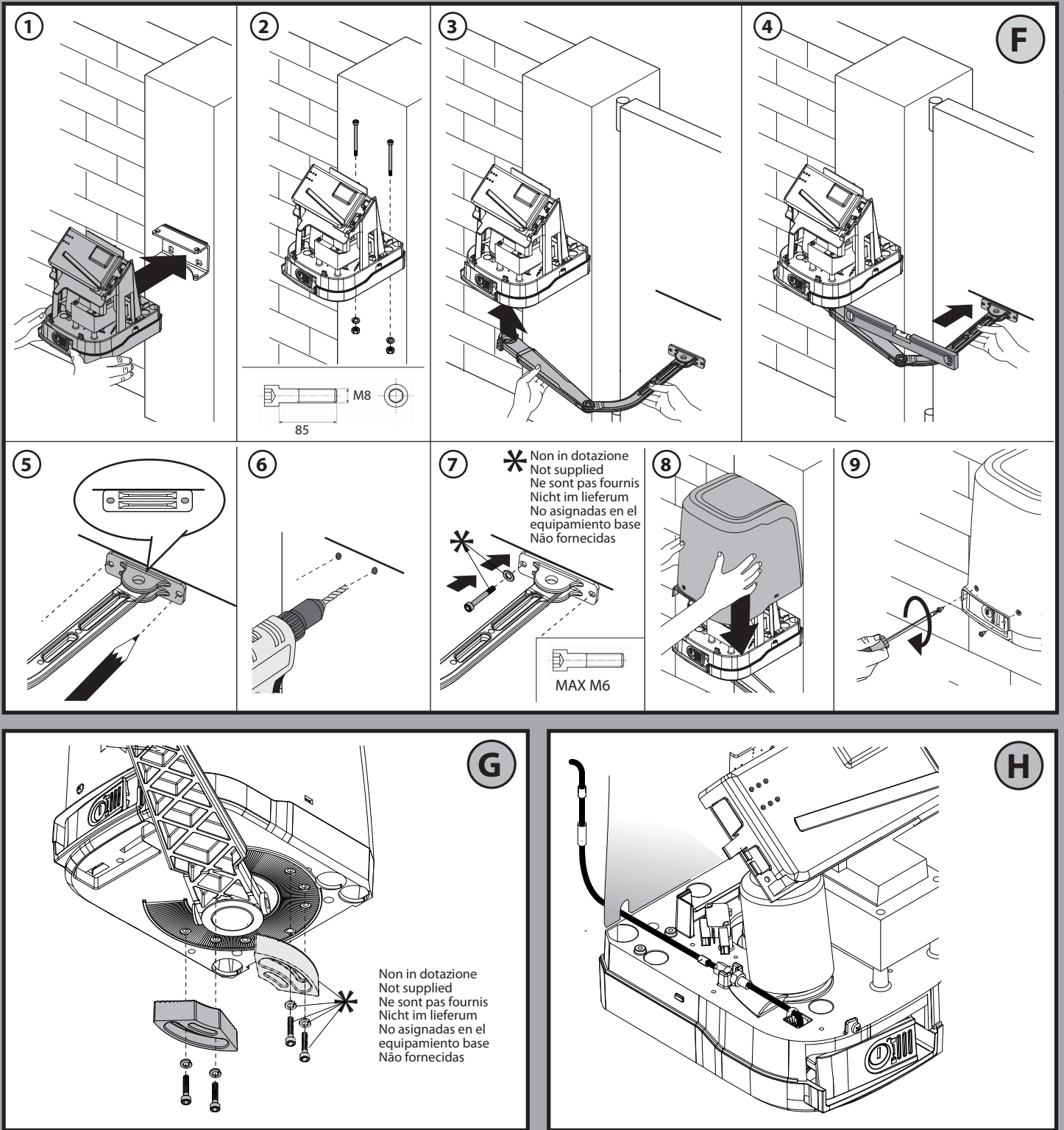
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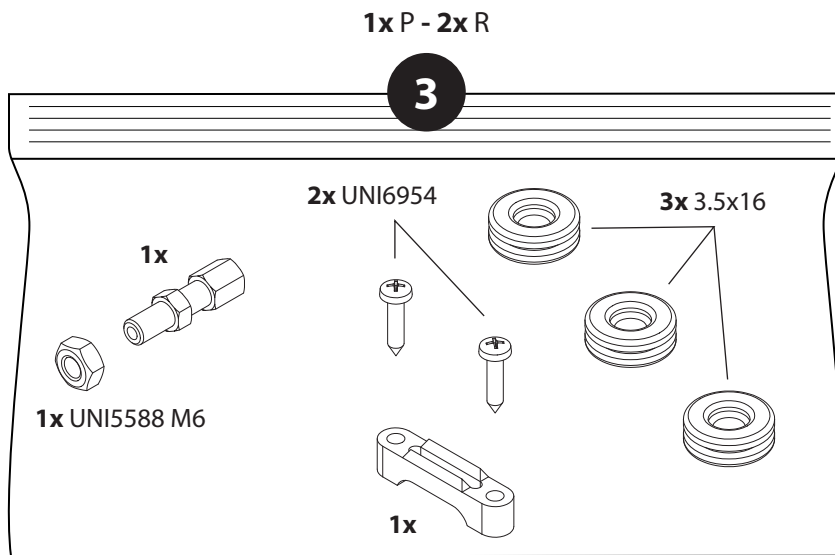
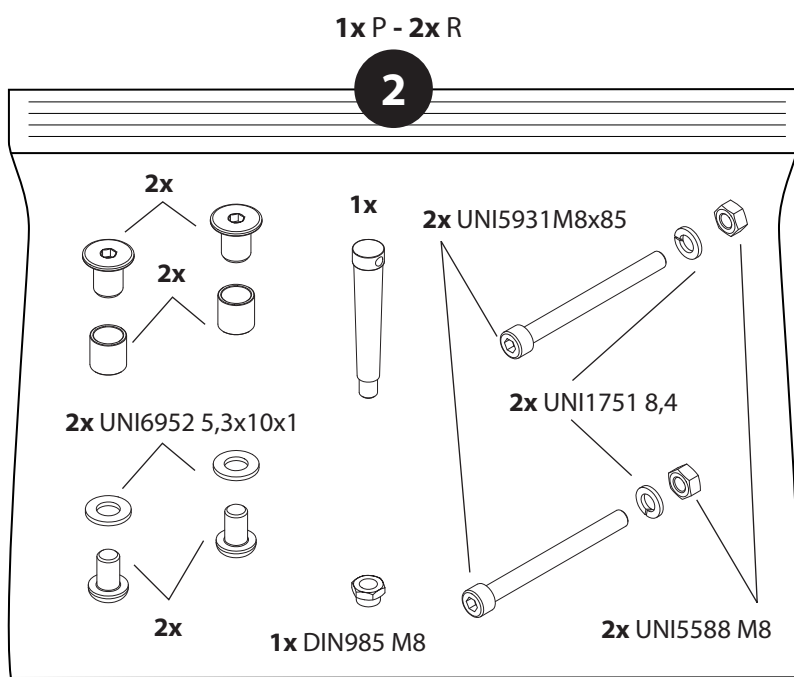
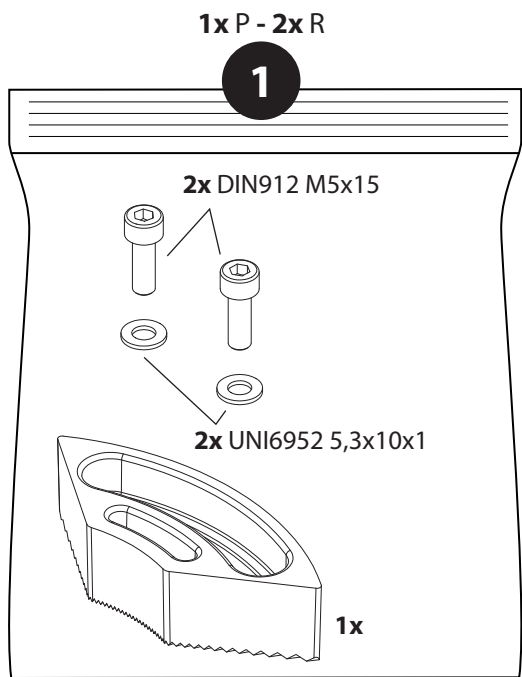
APERTURA VERSO L'ESTERNO
OUTWARDS OPENING
OUVERTURE VERS L'EXTÉRIEUR
ÖFFNUNG NACH AUSSEN
APERTURA HACIA EL EXTERIOR
ABERTURA PARA O EXTERNO



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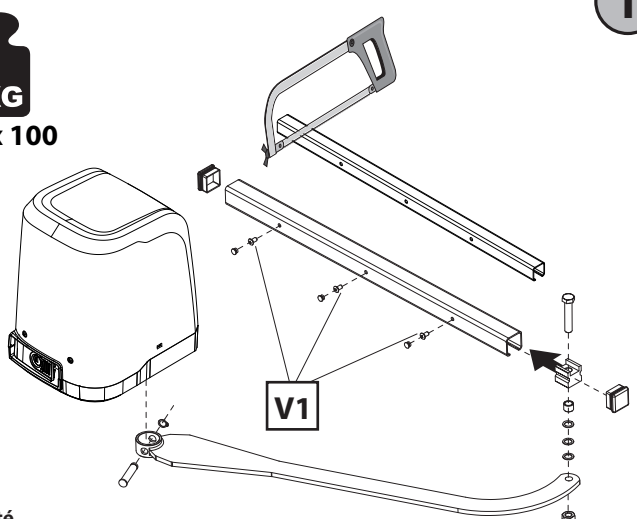
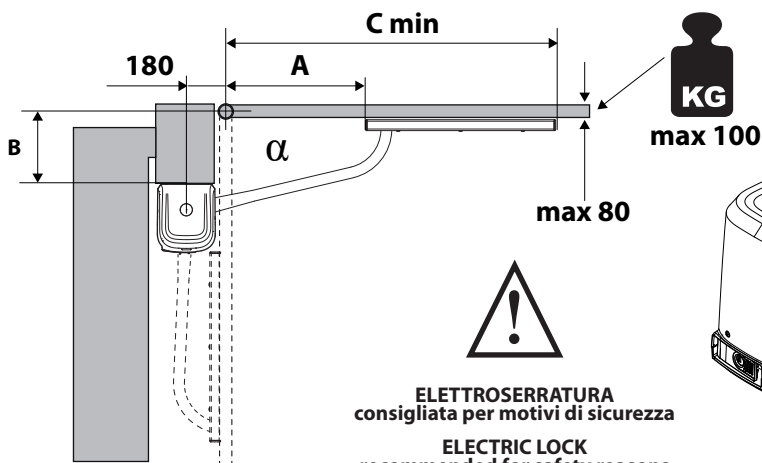






LEVA A SLITTA - SLIDE LEVER - LEVIER À COULISSE - GLEITHEBEL - PALANCA DESLIZANTE - ALAVANCA DESLIZANTE

I



ELETTROSERRATURA
consigliata per motivi di sicurezza

ELECTRIC LOCK
recommended for safety reasons

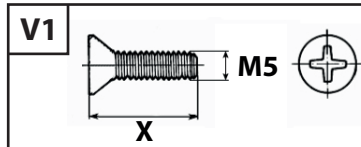
SERRURE ÉLECTRIQUE
recommandée pour des raisons de sécurité

ELEKTRISCHE VERRIEGELUNG
aus Sicherheitsgründen empfohlen

FECHADURA ELÉTRICA
recomendada por razões de segurança

FECHADURA ELÉTRICA
recomendada por razões de segurança

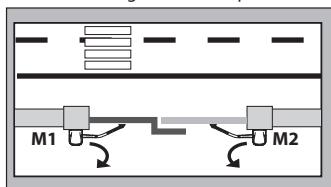
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	400	235	1050



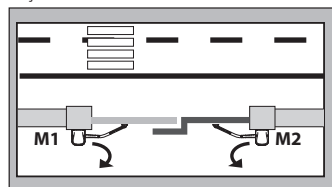
Non in dotazione
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Ne sont pas fournis
Nicht im Lieferum
No asignadas en el
equipamiento base
Não fornecidas

M1= VIRGO SMART BT A (SX) / M2= VIRGO SMART BT A SQ (DX)

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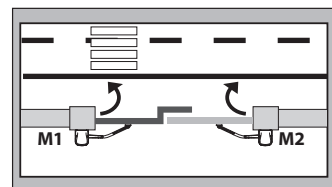


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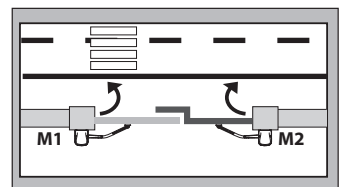


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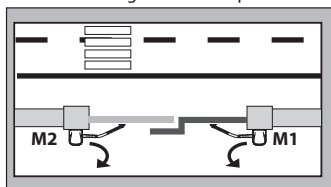
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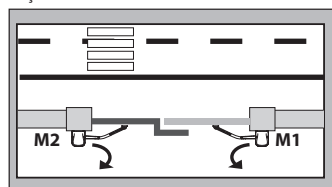
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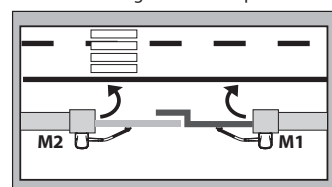


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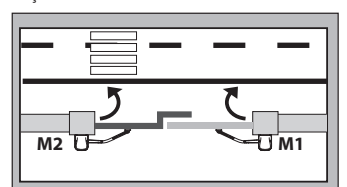


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mot.tausch / inv.mot / inv.mot = 1

inv.direz. ap / open in other direct. / inv.sens.ouv
inv richt öffnung / inv.direcc.ap / Inversão direcção de abertura: = 0 (int)

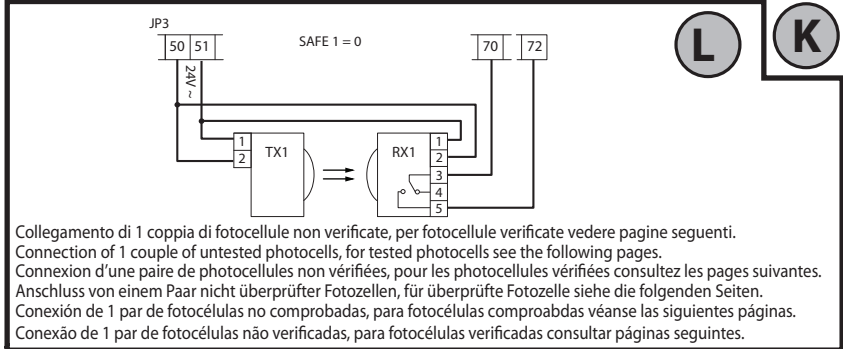
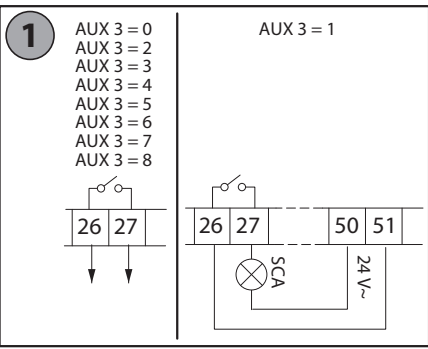


inv.mot / change mot / inv.mot = 0
mot.tausch / inv.mot / inv.mot = 0

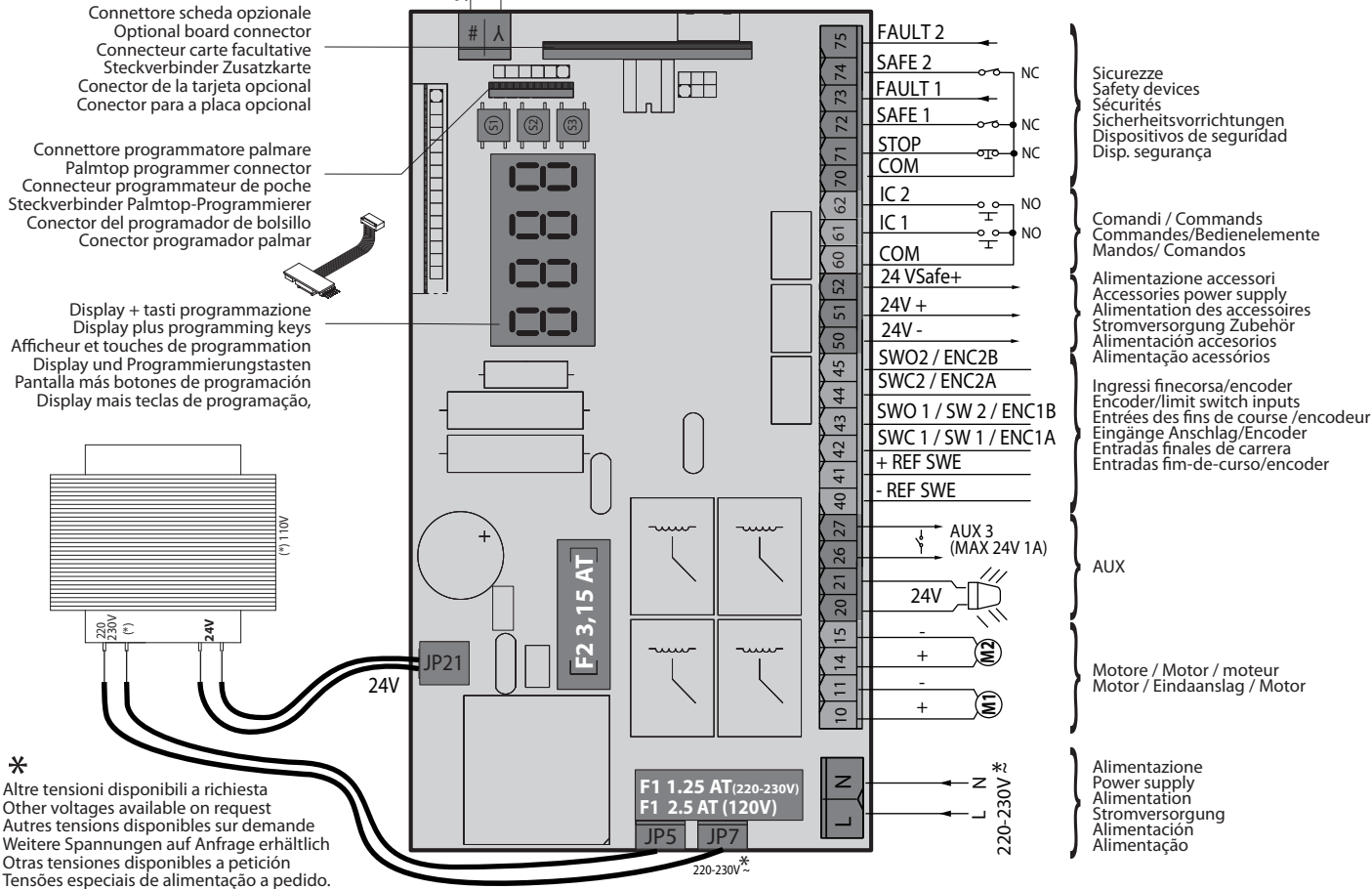


inv.mot / change mot / inv.mot = 1
mot.tausch / inv.mot / inv.mot = 1

ATTENZIONE: con attuatori con fermi integrati è obbligatorio il rallentamento sempre attivo ad un valore superiore a 5.
ATTENTION: with actuators with integrated locks, the permanently active slowdown to a value higher than 5 is mandatory.
ATTENTION: avec des actionneurs à butées intégrées il est obligatoire que le ralentissement soit toujours actif à une valeur supérieure à 5.
ACHTUNG: Bei Aktuatoren mit integrierten Feststellern ist eine immer aktive Verlangsamung bei einem Wert über 5 zwingend erforderlich.
ATENCIÓN: con accionadores con topes integrados la deceleración debe estar siempre activa a un valor superior a 5.
ATENÇÃO: com atuadores com bloqueios integrados é obrigatório o retardamento sempre ativo a um valor superior a 5.



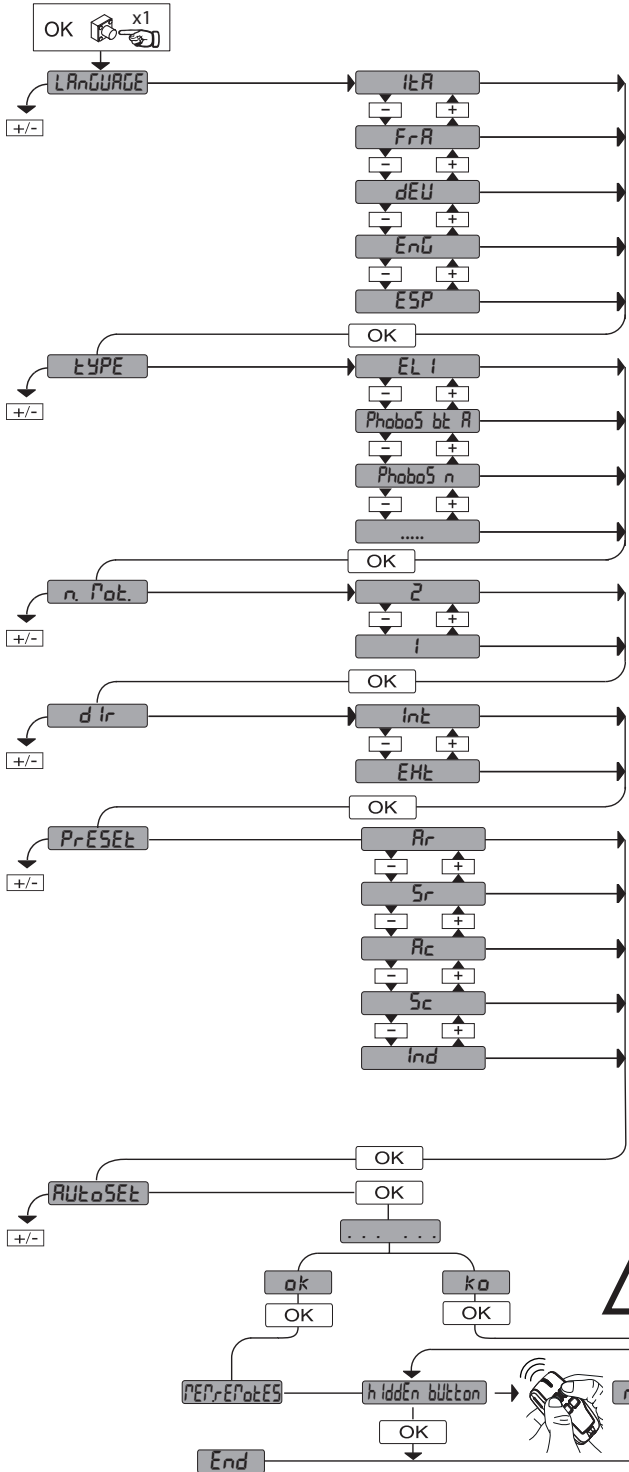
Collegamento di 1 coppia di fotocellule non verificate, per fotocellule verificate vedere pagine seguenti.
Connection of 1 couple of untested photocells, for tested photocells see the following pages.
Connexion d'une paire de photocellules non vérifiées, pour les photocellules vérifiées consultez les pages suivantes.
Anschluss von einem Paar nicht überprüfter Fotozellen, für überprüfte Fotozelle siehe die folgenden Seiten.
Conexión de 1 par de fotocélulas no comprobadas, para fotocélulas comprobadas véanse las siguientes páginas.
Conexão de 1 par de fotocélulas não verificadas, para fotocélulas verificadas consultar páginas seguintes.



* Altre tensioni disponibili a richiesta
Other voltages available on request
Autres tensions disponibles sur demande
Weitere Spannungen auf Anfrage erhältlich
Otras tensiones disponibles a petición
Tensões especiais de alimentação a pedido.

SIMPLIFIED MENU

DB12939.00096_03



- inE* : inward opening
- EHt* : outward opening
- Rr* : automatic operation, residential
- Sr* : semiautomatic operation, residential
- Rc* : automatic operation, commercial
- Sc* : semiautomatic operation, commercial
- Ind* : dead man operation

LEGENDA

+ ↑

- ↓

OK ←

Scroll up

Scroll down

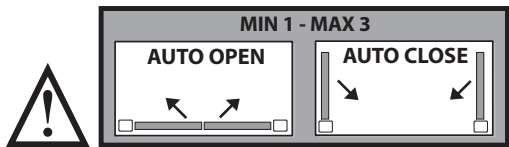
Confirm/Switch on display

+ [button]

- [button]

Exit Menu

PRESET	DEFAULT	<i>Rr</i>	<i>Sr</i>	<i>Rc</i>	<i>Sc</i>	<i>Ind</i>
PARAMETERS						
LOGIC						
TCA	0	1	0	1	0	0
Step-by-step movement	0	1	0	1	0	0
Pre-alarm	0	0	0	1	1	0
Deadman	0	0	0	0	0	1
Block pulses during opening	0	0	0	1	1	0



ITALIANO

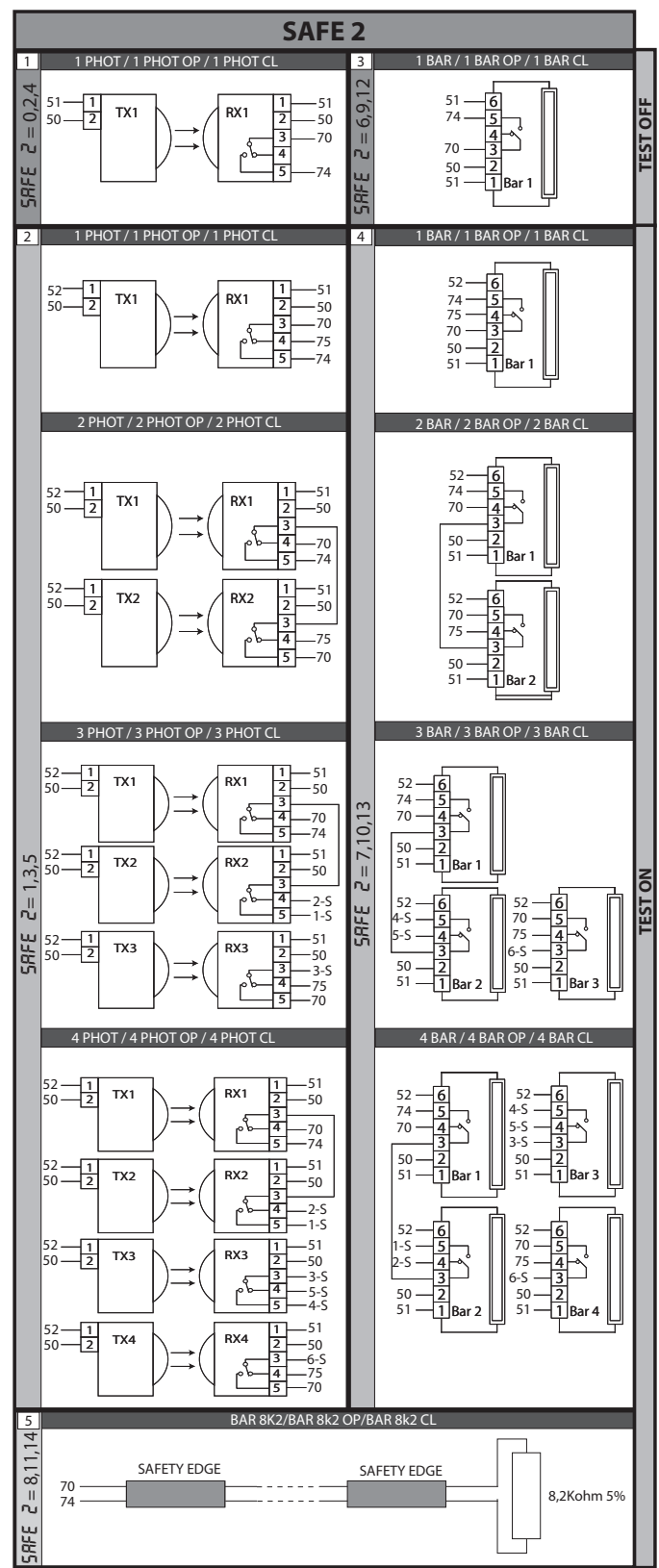
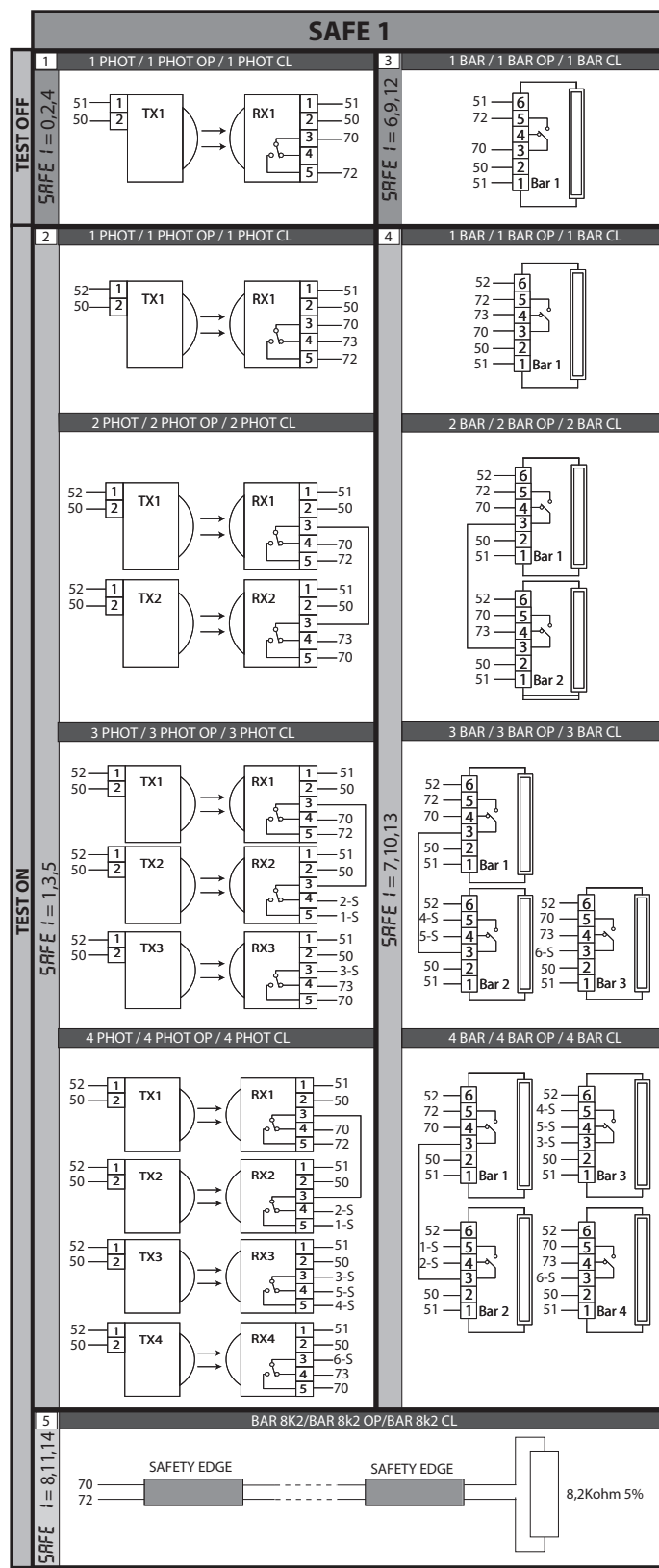
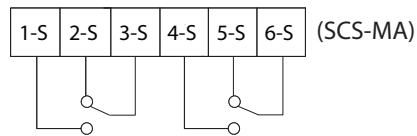
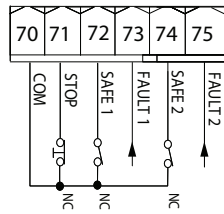
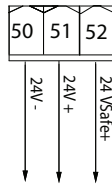
ENGLISH

FRANÇAIS

DEUTSCH

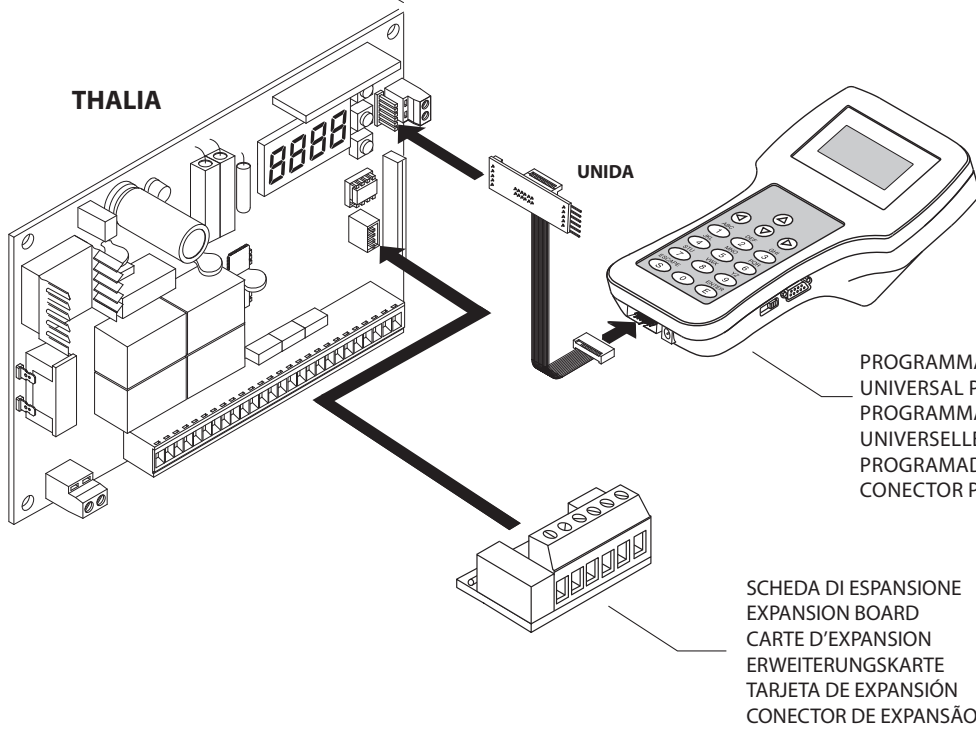
ESPAÑOL

PORTUGUÊS

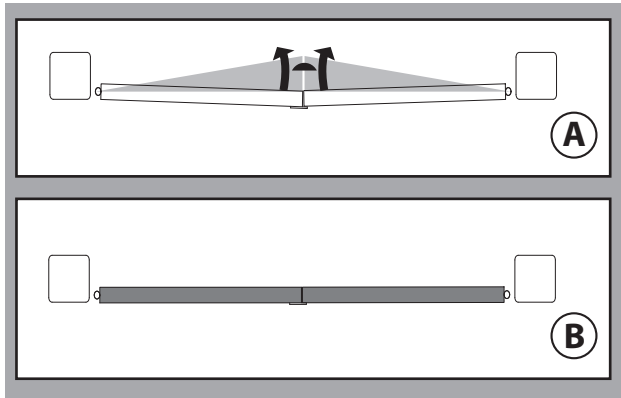


Numero massimo di dispositivi verificati: 6 (ma non più di 4 per tipo),
 Maximum number of tested devices: 6 (but no more than 4 per type),
 Nombre maximum dispositif vérifiés: 6 (mais pas plus de 4 par type),
 Max. Anzahl der überprüften Geräte: 6 (jedoch nicht mehr als 4 je Typ),
 Número máximo dispositivos comprobados: 6 (pero no más de 4 por tipo),
 Num. máx. dispositivos verificados: 6 (não mais de 4 por tipo),

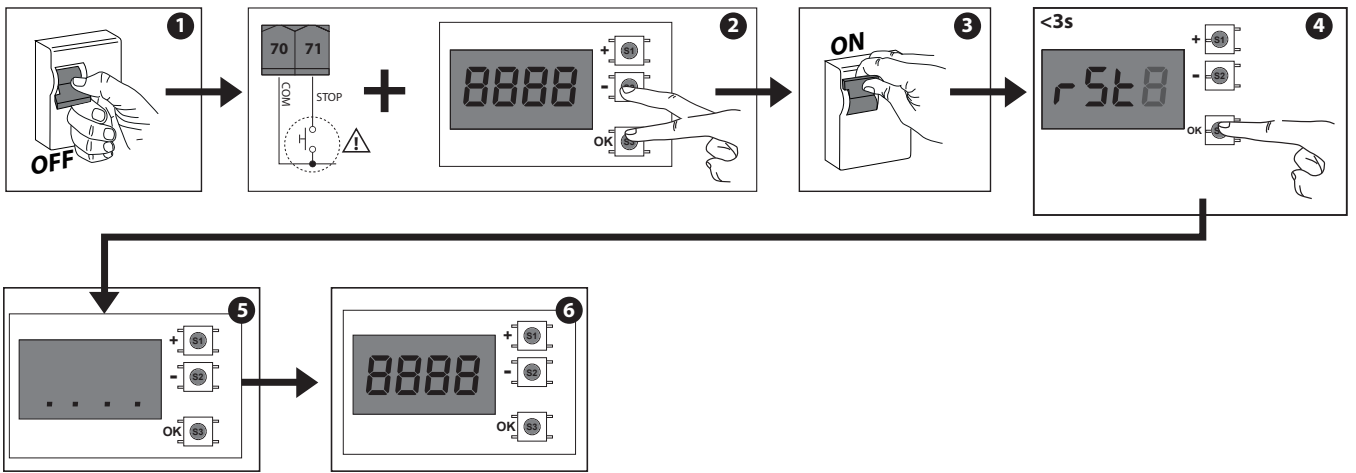
N



O



P



ITALIANO

ENGLISH

FRANÇAIS

DEUTSCH

ESPAÑOL

PORTUGUÊS

ACCESS MENUS Fig. 2

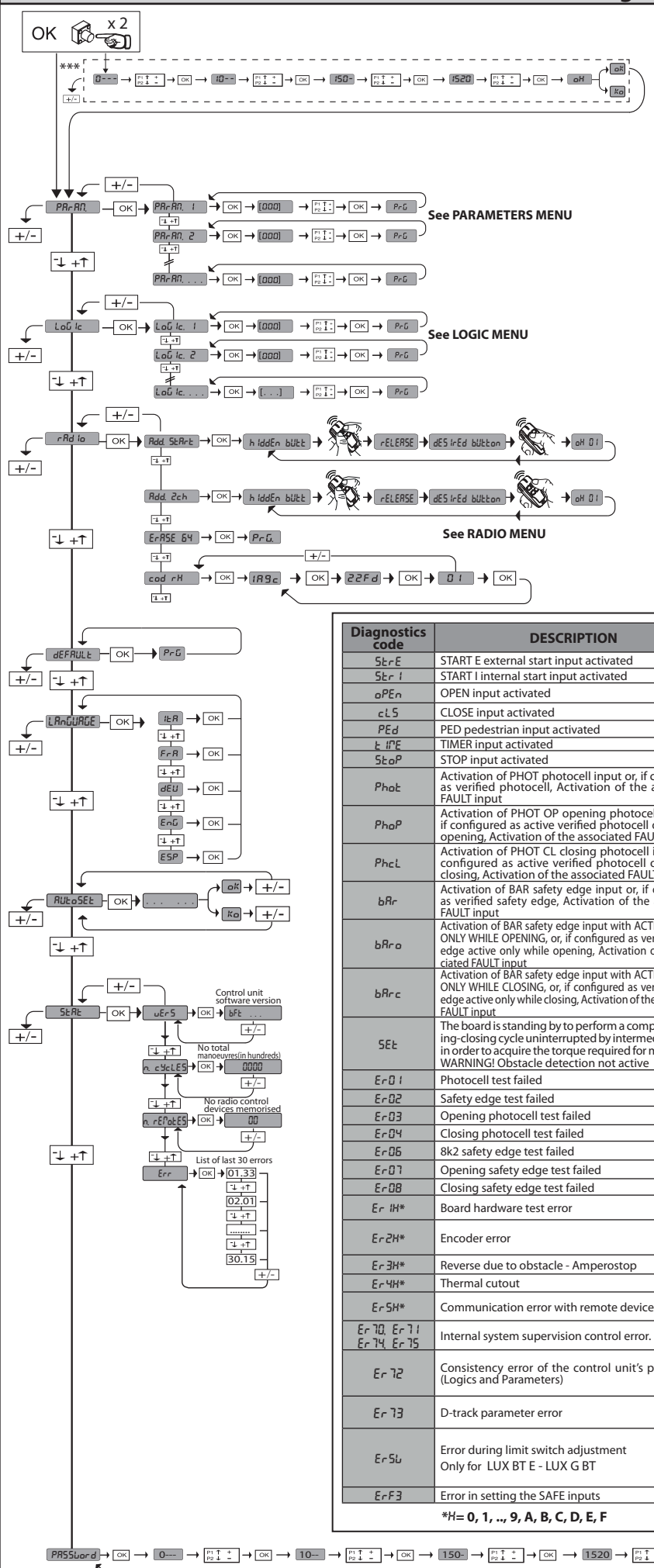
D812939 00096_03

*** Password entry.
Request with Protection Level
logic set to 1, 2, 3, 4

LEGENDA

- ↑ Scroll up
- ↓ Scroll down
- OK Confirm/Switch on display
- +/- Exit Menu

- C = SWC2 motor 2 closing limit switch input activated
- O = SWO2 motor 2 opening limit switch input activated
- C = SWC1 motor 1 closing limit switch input activated
- O = SWO1 motor 1 opening limit switch input activated
- Instantaneous force motor 2
- Instantaneous force motor 1



Diagnostics code	DESCRIPTION	NOTES
StErE	START E external start input activated	
StEr I	START I internal start input activated	
oPEn	OPEN input activated	
cLS	CLOSE input activated	
PEd	PED pedestrian input activated	
t iPE	TIMER input activated	
StoP	STOP input activated	
Phot	Activation of PHOT photocell input or, if configured as verified photocell, Activation of the associated FAULT input	
PhoP	Activation of PHOT OP opening photocell input or, if configured as active verified photocell only when opening, Activation of the associated FAULT input	
PhcL	Activation of PHOT CL closing photocell input or, if configured as active verified photocell only when closing, Activation of the associated FAULT input	
bAr	Activation of BAR safety edge input or, if configured as verified safety edge, Activation of the associated FAULT input	
bAr o	Activation of BAR safety edge input with ACTIVE reversal ONLY WHILE OPENING, or, if configured as verified safety edge active only while opening, Activation of the associated FAULT input	
bAr c	Activation of BAR safety edge input with ACTIVE reversal ONLY WHILE CLOSING, or, if configured as verified safety edge active only while closing, Activation of the associated FAULT input	
SEt	The board is standing by to perform a complete opening-closing cycle uninterrupted by intermediate stops in order to acquire the torque required for movement. WARNING! Obstacle detection not active	
Er01	Photocell test failed	Check photocell connection and/or logic settings
Er02	Safety edge test failed	Check safety edge connection and/or logic settings
Er03	Opening photocell test failed	Check photocell connection and/or parameter/logic setting
Er04	Closing photocell test failed	Check photocell connection and/or parameter/logic setting
Er05	8k2 safety edge test failed	Check safety edge connection and/or parameter/logic settings
Er07	Opening safety edge test failed	Check safety edge connection and/or parameter/logic settings
Er08	Closing safety edge test failed	Check safety edge connection and/or parameter/logic settings
Er iH*	Board hardware test error	- Check connections to motor - Hardware problems with board (contact technical assistance)
Er2H*	Encoder error	- Motor power or encoder signal cables inverted/disconnected. - Actuator movement is too slow or stopped with respect to programmed operation.
Er3H*	Reverse due to obstacle - Amperostop	Check for obstacles in path
Er4H*	Thermal cutout	Allow automated device to cool
Er5H*	Communication error with remote devices	Check connection with serial-connected accessory devices and/or expansion boards
Er70, Er71, Er74, Er75	Internal system supervision control error.	Try switching the board off and back on again. If the problem persists, contact the technical assistance department.
Er72	Consistency error of the control unit's parameters (Logics and Parameters)	Pressing OK the detected settings are confirmed. The board will keep on working with the detected settings. ⚠ The board settings must be checked (Parameters and Logics)
Er73	D-track parameter error	Pressing OK, the board will keep on working with D-track as a default. ⚠ An autostop is required
Er5L	Error during limit switch adjustment Only for LUX BT E - LUX G BT	- Repeat the limit switch adjustment procedure. - Try moving the maximum limits of both the opening and closing limit switches. - Caution: the last centimetre of the piston's stroke, during either opening or closing, cannot be used.
ErF3	Error in setting the SAFE inputs	Check the setting of the SAFE inputs is correct

*H= 0, 1, .., 9, A, B, C, D, E, F

OPERATOR

1) GENERAL OUTLINE

Low-voltage operator (24V $\overline{---}$) suitable for residential use. Designed for swing gates having small-sized pillars. The operating arm, with its special antishearing shape, allows the leaves to be manoeuvred even when the operator is positioned well away from their fulcrum. The irreversible electromechanical gearmotor keeps the gate locked in the closing and opening positions.

The release lever, fitted to the outside of each operator, allows the manual manoeuvre to be carried out very easily.

ATTENTION! The **VIRGO SMART BT A** model controller is not equipped with mechanical torque adjustment. It is compulsory to use a control panel of the same manufacturer, in compliance with the basic safety requirements of directives 2014/35/CE, 2014/30/CE, 2006/42/CEE equipped with appropriate electric adjustment of the torque.

Before carrying out the manual manoeuvre make sure that this operation will not create a dangerous situations.

Check in the relevant literature that the thermal field in the working area is suitable for the operator.

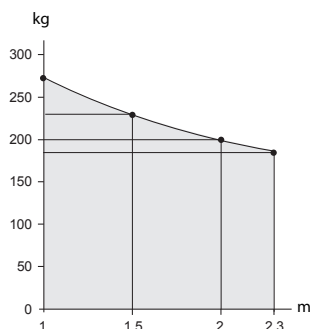
Make sure that the movement of the door does not cause entrapment risks between the movable and fixed parts of the door.

If swing gates with built-in doors are used, the motor must not run when the door is left open.

WARNING! The operator must be installed by a qualified technician as special safety components are used for every specific site and therefore safety depends on installation.

2) TECHNICAL SPECIFICATIONS

Motor	24V $\overline{---}$ 2500 min ⁻¹
Power	110W
Insulation class	F
Lubrication	Permanent grease
Reduction ratio	1-1224
Output shaft revolutions	2 min ⁻¹ MAX
Opening time 90°	14s
Torque supplied	170 Nm
Max leaf weight and length	2000N (~200kg) for 2m long leaf
Impact reaction:	Integrated torque limiter on THALIA control panel
Motion drive	Lever arm
Stop	Incorporated electrical limit switches + mechanical locks
Manual manoeuvre	Mechanical lever release with key
Number of manoeuvres in 24h	60
Environmental conditions	from -20 to +55 °C
Degree of protection	IP44
Operator weight	8kg
Dimensions	see fig.B
Sound pressure	<70dB(A)
Number of manoeuvres	20 cycle/h



3) OPERATOR INSTALLATION

3.1) Preliminary checks

Check that:

- The gate structure is sufficiently sturdy and rigid. The fixing position must be worked out according to the leaf structure. In any case, the manoeuvring arm must push against a reinforced leaf point. (Fig.C)
- The leaves can be moved manually along their entire stroke. If the gate has not been installed recently, check the wear condition of all its components. Repair or replace defective and worn parts. Operator reliability and safety are directly affected by the condition of the gate structure.

4) SUPPORT PLATE FIXING

The operator is supplied with a fixing bracket and lever arm.

Having identified the leaf reinforcement point, with the gate closed, trace an imaginary horizontal line from the centre of the reinforcement point to the pillar

(Fig. D Ref.1).

Fig. C illustrates the most common types of installation:

Ref.2: 90° opening, position A and B as per the drawing

Ref.3: 90° opening, position B maximum

Ref.4: 120° opening, position A and B as per the drawing

Ref.5: 90° outward opening

See table for other installation positions and relative lever angles.

Position the fixing bracket respecting the positions in fig.C.

The pillar surface, where the bracket is fixed, must be flat and parallel to the leaf. Use screws and expansion plugs adequate for the type of pillar. In the case where the pillar surface is irregular, use expansion plugs with studs, in order to be able to adjust the fixing bracket parallel to the leaf (fig.D Ref.4).

- Assemble the lever arm as in fig.E.
 - DX = fitting to right leaf
 - SX = fitting to left leaf
- Choose the most suitable position for fixing bracket "F" to the leaf.
- Insert the lever arm "L" into the output shaft of the gearmotor and secure it using the special pin "P" and the self-locking nut "D".
- Release the actuator by operating the release lever to allow easy movement of the arm (see paragraph "EMERGENCY MANOEUVRE").
- Open the gearmotor cover and fasten it to the plate as shown in Fig.F Ref.1-2.
- Fix the leaf bracket Fig. F
- Fix the drive bracket "F" to the leaf.
- The correct position that the actuator arm must assume depends on the installation. The attachment point to the leaf is ascertained by positioning the arm in such a way as to respect the position shown in fig.C Ref.1.
- With the operator released, check the arm for correct movement.
- Repeat the same procedure for the other leaf.

5) LIMIT SWITCH ADJUSTMENT AND FIXING OF STOP BLOCKS.

The VIRGO SMART BT A actuator is equipped with limit-switch mechanical stop blocks, which make the installation of ground stops unnecessary.

Adjust the limit switches as described in paragraph "Motor connection and limit switch adjustment in the THALIA control panel section.

Referring to Fig. G, proceed as follows:

- Identify the opening and closing limit switch points and fix the stop blocks so that the lever arm comes into contact **slightly after the limit switches have been activated.**

6) EMERGENCY MANOEUVRE (Fig.1)

In the case where the power supply is off, or any faults are present, the manual emergency manoeuvre can be carried out by operating the external release lever (Fig.1 rif.5).

- Insert the release key and turn it anticlockwise (Fig.1 ref.B).
- Move lever "S" until the lock is released (Fig.1 ref.B).
- Push the leaf slowly to open or close the gate. (Fig.1 ref.C)

To reactivate motor-driven operation, turn the key clockwise to free the lever from its released position, then return it to its initial position for normal operation.

7) MANUAL WIRE RELEASE DEVICE (Fig.H)

The manual emergency release can be operated by a wire device:

- Take all the metal cable out of the sheath and insert it into the release lever.
- Lock the sheath and suitably adjust its position by means of the appropriate screw.
- The cover is provided with a section to be torn off for the sheath to go through.
- For further information, refer to the specific instructions for the release device.

8) AUTOMATION CHECK

Before allowing the automation to be used normally, carry out the following procedure very carefully:

- Check the correct functioning of all safety devices (limit microswitches, photocells, sensitive edges etc.).
- Check that the thrust (anti-squash) force of the leaf is within the limits set by current regulations.
- Check the manual opening command.
- Check the opening and closing operations with the control devices in use.
- Check the standard and customised electronic functioning logic.

9) AUTOMATION OPERATION

Since the automation can be remote-controlled by means of a remote control device or a start button, and so out of sight, the good working order of all the safety devices should be checked regularly. In the event of any anomalous functioning of the safety devices, consult a specialised technician immediately. Keep children at a safe distance from the automation operation area.

10) CONTROL

The automation is used for the power-operated opening and closing of the gate. The control can be of a number of types (manual, remote-controlled, magnetic badge access control, etc.) depending on requirements and the characteristics of the installation. See the specific instructions for the various control systems. Users of the automation must be instructed about its control and operation.

11) MAINTENANCE

Disconnect the power supply when carrying out any maintenance operations.

- Lubricate the **VIRGOs** of the manoeuvring arm regularly.
- Clean the lenses of the photocells every so often.
- Have a qualified person (installer) check correct motor torque setting.
- In the event of any anomalous functioning which cannot be resolved, disconnect the power supply and contact a specialised technician (installer). Whilst the automation is out of order, activate the manual release to allow manual opening and closing.

CONTROL PANEL

1) GENERAL INFORMATION

The **THALIA** control panel comes with standard factory settings. Any change must be made using the programmer with built-in display or universal handheld programmer. The Control unit completely supports the EELINK protocol.

Its main features are:

- Control of 1 or 2 24V BT motors
Note: 2 motors of the same type must be used.
- Electronic torque control with obstacle detection
- Limit switch control inputs based on motor selected
- Separate inputs for safety devices
- Built-in radio receiver rolling code with transmitter cloning.

The board has a terminal strip of the removable kind to make maintenance or replacement easier. It comes with a series of prewired jumpers to make the installer's job on site easier.

The jumpers concern terminals: 70-71, 70-72, 70-74. If the above-mentioned terminals are being used, remove the relevant jumpers.

TESTING

The **THALIA** panel controls (checks) the start relays and safety devices (photo-cells) before performing each opening and closing cycle.

If there is a malfunction, make sure that the connected devices are working properly and check the wiring.

AUX 3	NO contact (24V~/max.1A)
Fuses	see Fig. K
N° of combinations	4 billion
Max.n° of transmitters that can be memorized	63

(*other voltages to order)

Usable transmitter versions:

All ROLLING CODE transmitters compatible with ((CR-Ready))

2.1) VIRGO BAT BATTERY KIT (OPTIONAL)

3) TUBE ARRANGEMENT Fig.A

Arrange the electrical installation as shown in fig.A. Keep the mains voltage connections definitely separate from the very low voltage connections (24V).

For this purpose, the operator is provided with appropriate fittings, indicated in Fig.A, for a spiral flexible raceway with an inside diameter of 20:

- P1 input for mains power supply.
- P2/P3 inputs for safety devices and accessories.

For the mains power supply, use the appropriate cable clamp (Fig.A -"S").

4) TERMINAL BOARD WIRING Fig.K

WARNINGS - When performing wiring and installation, refer to the standards in force and, whatever the case, apply good practice principles. Wires carrying different voltages must be kept physically separate from each other, or they must be suitably insulated with at least 1mm of additional insulation. Wires must be secured with additional fastening near the terminals, using devices such as cable clamps.

All connecting cables must be kept far enough away from the dissipater.

WARNING! For connection to the mains power supply, use a multicore cable with a cross-sectional area of at least 3x1.5mm² of the kind provided for by the regulations in force. To connect the motors, use a cable with a cross-sectional area of at least 1.5mm² of the kind provided for by the regulations in force. The cable must be type H05RN-F at least.

5) MOTOR CONNECTION AND LIMIT SWITCH ADJUSTMENT (Fig. J)

With the gate completely closed and open, rotate the corresponding cam until you hear the relevant limit microswitch click and lock in position with the appropriate screws.

Check the limit switches have activated correctly, starting some motorized opening and closing complete cycles.

2) TECHNICAL SPECIFICATIONS	
Power supply	220-230V 50/60 Hz*
Low voltage/mains insulation	> 2MOhm 500V ---
Operating temperature range	-20 / +55°C
Thermal overload protection	Software
Dielectric rigidity	mains/LV 3750V~ for 1 minute
Motor output current	max. 7.5A+7.5A
Motor relay switching current	10A
Maximum motor power	180W + 180W (24V ---)
Accessories power supply	24V~ (demand max. 1A) 24V~safe
AUX 0	NO 24V ---powered contact (max.1A)

	Terminal	Definition	Description
Power supply	L	LINE	Single-phase power supply 220-230V 50/60 Hz*
	N	NEUTRAL	
	JP5	TRANSF PRIM	Transformer primary winding connection, 220-230V.
	JP7		
	JP21	TRANSF SEC	Board power supply: 24V~ Transformer secondary winding 24V= Buffer battery power supply
Motor	10	MOT1 +	Connection motor 1. Time lag during closing.
	11	MOT1 -	Check connections shown in Fig.J
	14	MOT2 +	Connection motor 2. Time lag during opening.
	15	MOT2 -	Check connections shown in Fig.J
Aux	20	AUX 0 - 24V POWERED CONTACT (N.O.) (MAX. 1A)	AUX 0 configurable output - Default setting FLASHING LIGHT. 2ND RADIO CHANNEL/ SCA GATE OPEN LIGHT/ COURTESY LIGHT command/ ZONE LIGHT command/ STAIR LIGHT/ GATE OPEN ALARM/ FLASHING LIGHT/ SOLENOID LATCH/ MAGNETIC LOCK/ MAINTENANCE/ FLASHING LIGHT AND MAINTENANCE. Refer to "AUX output configuration" table.
	21		
	26	AUX 3 - FREE CONTACT (N.O.) (Max. 24V 1A)	AUX 3 configurable output - Default setting 2ND RADIO CHANNEL Output. 2ND RADIO CHANNEL/ SCA GATE OPEN LIGHT/ COURTESY LIGHT command/ ZONE LIGHT command/ STAIR LIGHT/ GATE OPEN ALARM/ FLASHING LIGHT/ SOLENOID LATCH/ MAGNETIC LOCK. Refer to "AUX output configuration" table.
	27		
Limit switch for VIRGO SMART BT A 5 wires	41	+ REF SWE	Limit switch common
	42	SWC 1	Motor 1 closing limit switch SWC1 (N.C.).
	43	SWO 1	Motor 1 opening limit switch SWO1 (N.C.).
	44	SWC 2	Motor 2 closing limit switch SWC2 (N.C.).
	45	SWO 2	Motor 2 opening limit switch SWO2 (N.C.).
Limit switch for VIRGO SMART BT A 3 wires	42	SW 1	Limit switch control motor 1. For actuators with single-wire limit switch control.
	43	SW 2	Limit switch control motor 2. For actuators with single-wire limit switch control.
Accessories power supply	50	24V-	Accessories power supply output.
	51	24V+	
	52	24 Vsafe+	Tested safety device power supply output (photocell transmitter and safety edge transmitter). Output active only during operating cycle.
Commands	60	Common	IC 1 and IC 2 inputs common
	61	IC 1	Configurable command input 1 (N.O.) - Default START E. START E / START I / OPEN / CLOSE / PED / TIMER / TIMER PED Refer to the "Command input configuration" table.
	62	IC 2	Configurable command input 2 (N.O.) - Default PED. START E / START I / OPEN / CLOSE / PED / TIMER / TIMER PED Refer to the "Command input configuration" table.

INSTALLATION MANUAL

	Terminal	Definition	Description
Safety devices	70	Common	STOP, SAFE 1 and SAFE 2 inputs common
	71	STOP	The command stops movement. (N.C.) If not used, leave jumper inserted.
	72	SAFE 1	Configurable safety input 1 (N.C.) - Default PHOT. PHOT / PHOT TEST / PHOT OP / PHOT OP TEST / PHOT CL / PHOT CL TEST / BAR / BAR TEST / BAR 8K2 / BAR OP / BAR OP TEST / BAR 8K2 OP / BAR CL / BAR CL TEST / BAR 8K2 CL Refer to the "Safety input configuration" table.
	73	FAULT 1	Test input for safety devices connected to SAFE 1.
	74	SAFE 2	Configurable safety input 2 (N.C.) - Default BAR. PHOT / PHOT TEST / PHOT OP / PHOT OP TEST / PHOT CL / PHOT CL TEST / BAR / BAR TEST / BAR 8K2 / BAR OP / BAR OP TEST / BAR 8K2 OP / BAR CL / BAR CL TEST / BAR 8K2 CL Refer to the "Safety input configuration" table.
Antenna	75	FAULT 2	Test input for safety devices connected to SAFE 2.
	Y	ANTENNA	Antenna input.
	#	SHIELD	Use an antenna tuned to 433MHz. Use RG58 coax cable to connect the Antenna and Receiver. Metal bodies close to the antenna can interfere with radio reception. If the transmitter's range is limited, move the antenna to a more suitable position.

AUX output configuration

Aux logic= 0 - 2ND RADIO CHANNEL output. Contact stays closed for 1s when 2nd radio channel is activated.
Aux logic= 1 - SCA GATE OPEN LIGHT output. Contact stays closed during opening and with leaf open, intermittent during closing, open with leaf closed.
Aux logic= 2 - COURTESY LIGHT command output. Contact stays on for 90 seconds after the last operation.
Aux logic= 3 - ZONE LIGHT command output. Contact stays closed for the full duration of operation.
Aux logic= 4 - STAIR LIGHT output. Contact stays closed for 1 second at start of operation.
Aux logic= 5 - GATE OPEN ALARM output. Contact stays closed if the leaf stays open for double the set TCA time.
Aux logic= 6 - FLASHING LIGHT output. Contact stays closed while leaves are operating.
Aux logic= 7 - SOLENOID LATCH output. Contact stays closed for 2 seconds each time gate is opened.
Aux logic= 8 - MAGNETIC LOCK output. Contact stays closed while gate is closed.
Aux logic= 9 - MAINTENANCE output. Contact stays closed once the value set for the Maintenance parameter is reached, to report that maintenance is required.
Aux logic= 10 - FLASHING LIGHT AND MAINTENANCE output. Contact stays closed while leaves are operating. If the value set for the Maintenance parameter is reached, once the gate has finished moving and the leaf is closed, the contact closes for 10 sec. and opens for 5 sec. 4 times to report that maintenance is required.

Command input configuration

IC logic= 0 - Input configured as Start E. Operation according to 5tEP-bY-5tEP P _{0u} . logic. External start for traffic light control.
IC logic= 1 - Input configured as Start I. Operation according to 5tEP-bY-5tEP P _{0u} . logic. Internal start for traffic light control.
IC logic= 2 - Input configured as Open. The command causes the leaves to open. If the input stays closed, the leaves stay open until the contact is opened. When the contact is open, the automated device closes following the TCA time, where activated.
IC logic= 3 - Input configured as Closed. The command causes the leaves to close.
IC logic= 4 - Input configured as Ped. The command causes the leaf to open to the pedestrian (partial) opening position. Operation according to 5tEP-bY-5tEP. logic
IC logic= 5 - Input configured as Timer. Operation same as open except closing is guaranteed even after a mains power outage.
IC logic= 6 - Input configured as Timer Ped. The command causes the leaf to open to the pedestrian (partial) opening position. If the input stays closed, the leaf stays open until the contact is opened. If the input stays closed and a Start E, Start I or Open command is activated, a complete opening-closing cycle is performed before returning to the pedestrian opening position. Closing is guaranteed even after a mains power outage.

Safety input configuration

SAFE logic= 0 - Input configured as Phot (photocell) non tested (*). (fig.M, ref.1). Enables connection of devices not equipped with supplementary test contacts. When beam is broken, photocells are active during both opening and closing. When beam is broken during closing, movement is reversed only once the photocell is cleared. If not used, leave jumper inserted.
SAFE logic= 1 - Input configured as Phot test (tested photocell). (fig.M, ref.2). Switches photocell testing on at start of operation. When beam is broken, photocells are active during both opening and closing. When beam is broken during closing, movement is reversed only once the photocell is cleared.
SAFE logic= 2 - Input configured as Phot op (photocell active during opening only) non tested (*). (fig.M, ref.1). Enables connection of devices not equipped with supplementary test contacts. In the event beam is broken, photocell operation is disabled during closing. During opening, stops motion for as long as the photocell beam stays broken. If not used, leave jumper inserted.
SAFE logic= 3 - Input configured as Phot op test (tested photocell active during opening only) (fig.M, ref.2). Switches photocell testing on at start of operation. In the event beam is broken, photocell operation is disabled during closing. During opening, stops motion for as long as the photocell beam stays broken.
SAFE logic= 4 - Input configured as Phot cl (photocell active during closing only) non tested (*). (fig.M, ref.1). Enables connection of devices not equipped with supplementary test contacts. In the event beam is broken, photocell operation is disabled during opening. During closing, movement is reversed immediately. If not used, leave jumper inserted.
SAFE logic= 5 - Input configured as Phot cl test (tested photocell active during closing only) (fig.M, ref.2). Switches photocell testing on at start of operation. In the event beam is broken, photocell operation is disabled during opening. During closing, movement is reversed immediately.
SAFE logic= 6 - Input configured as Bar (safety edge) non tested (*). (fig.M, ref.3). Enables connection of devices not equipped with supplementary test contacts. The command reverses movement for 2 sec. If not used, leave jumper inserted.
SAFE logic= 7 - Input configured as Bar (tested safety edge) (fig.M, ref.4). Switches safety edge testing on at start of operation. The command reverses movement for 2 sec.
SAFE logic= 8 - Input configured as Bar 8k2 (fig.M, ref.5). Input for resistive edge 8K2. The command reverses movement for 2 sec.
SAFE logic= 9 Input configured as Bar op, safety edge with active inversion only while opening, if activated while closing, the automation stops (STOP) (fig.M, ref. 3). Allows connecting devices not fitted with supplementary test contact. The operation while opening causes the movement to be reversed for 2 seconds, the operation while closing causes the automation to stop. If not used, leave jumper inserted.
SAFE logic= 10 Input configured as Bar op test, safety edge checked with active inversion only while opening, if activated while closing, the automation stops (STOP) (fig.M, ref. 4). Activates testing safety edges when starting operation. The operation while opening causes the movement to be reversed for 2 seconds, the operation while closing causes the automation to stop.
SAFE logic= 11 Input configured as Bar 8k2 op, 8k2 safety edge with active inversion only while opening, if activated while closing, the automation stops (STOP) (fig.M, ref. 5). The operation while opening causes the movement to be reversed for 2 seconds, the operation while closing causes the automation to stop.
SAFE logic= 12 Input configured as Bar cl, safety edge with active inversion only while closing, if activated while opening, the automation stops (STOP) (fig.M, ref. 3). Allows connecting devices not fitted with supplementary test contact. The operation while closing causes the movement to be reversed for 2 seconds, the operation while opening causes the automation to stop. If not used, leave jumper inserted.
SAFE logic= 13 Input configured as Bar cl test, safety edge checked with active inversion only while closing, if activated while opening, the automation stops (STOP) (fig.M, ref. 4). Activates testing safety edges when starting operation. The operation while closing causes the movement to be reversed for 2 seconds, the operation while opening causes the automation to stop.
SAFE logic= 14 Input configured as Bar 8k2 cl, safety edge with active inversion only while closing, if activated while opening, the automation stops (STOP) (fig.M, ref. 5). The operation while closing causes the movement to be reversed for 2 seconds, the operation while opening causes the automation to stop.

(*) If "D" type devices are installed (as defined by EN12453), connect in unverified mode, foresee mandatory maintenance at least every six months.

6) SAFETY DEVICES

Note: only use receiving safety devices with free changeover contact.

6.1) TESTED DEVICES Fig. M

6.2) CONNECTION OF 1 PAIR OF NON-TESTED PHOTOCELLS FIG. L

7) CALLING UP MENUS: FIG. 2

7.1) PARAMETERS MENU (PRrRf) (PARAMETERS TABLE "A")

7.2) LOGIC MENU (LoG ic) (LOGIC TABLE "B")

7.3) RADIO MENU (rRd io) (RADIO TABLE "C")

IMPORTANT NOTE: THE FIRST TRANSMITTER MEMORIZED MUST BE IDENTIFIED BY ATTACHING THE KEY LABEL (MASTER).

In the event of manual programming, the first transmitter assigns the RECEIVER'S KEY CODE: this code is required to subsequently clone the radio transmitters.

The Clonix built-in on-board receiver also has a number of important advanced features:

- Cloning of master transmitter (rolling code or fixed code).
- Cloning to replace transmitters already entered in receiver.
- Transmitter database management.
- Receiver community management.

To use these advanced features, refer to the universal handheld programmer's instructions and to the general receiver programming guide.

7.4) DEFAULT MENU (dEF RUL t)

Restores the controller's DEFAULT factory settings. Following this reset, you will need to run the AUTOSET function again.

7.5) LANGUAGE MENU (L RnG U R G E)

Used to set the programmer's language on the display.

7.6) AUTOSET MENU (RiUt o S E t)

- Launch an autose operation by going to the relevant menu.
- As soon as you press the OK button, the "....." message is displayed and the control unit commands the device to perform a full cycle (opening followed by closing), during which the minimum torque value required to move the leaf is set automatically. The number of cycles required for the autose function can range from 1 to 3. During this stage, it is important to avoid breaking the photocells' beams and not to use the START and STOP commands or the display. Once this operation is complete, the control unit will have automatically set the optimum torque values. Check them and, where necessary, edit them as described in the programming section.

WARNING!! Check that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.

Impact forces can be reduced by using deformable edges.

Warning!! While the autose function is running, the obstacle detection function is not active. Consequently, the installer must monitor the automated system's movements and keep people and property out of range of the automated system.

7.7) INSTALLATION TEST PROCEDURE

1. Run the AUTOSET cycle (**)
2. Check the impact forces: if they fall within the limits (**) skip to point 10 of the procedure, otherwise
3. Where necessary, adjust the speed and sensitivity (force) parameters: see parameters table.
4. Check the impact forces again: if they fall within the limits (**) skip to point 10 of the procedure, otherwise
5. Apply a shock absorber profile
6. Check the impact forces again: if they fall within the limits (**) skip to point 10 of the procedure, otherwise

TABLE "A" - PARAMETERS MENU - (PRrRf)

Parameter	min.	max.	Default	Personal	Definition	Description
oPEn dELAY tIME	0	10	3		Motor 2 opening delay time [s]	Motor 2 opening delay time with respect to motor 1.
cLS dELAY tIME	0	25	6		Motor 1 closing delay time [s]	Motor 1 closing delay time with respect to motor 2. NOTE: if the time is set to maximum, before starting, engine 1 waits for the complete shut down of engine 2.
t c R	0	120	10		Automatic closing time [s]	Waiting time before automatic closing.
t r F L G h t c l r t	1	180	40		Time-to-clear traffic light zone [s]	Time-to-clear for the zone run through by traffic controlled by the traffic light.
oP d i S t o S L o u d	0	50	10		Slow-down distance during opening [%]	Slow-down distance for motor(s) during opening, given as a percentage of total travel. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: when the display reads "SET", obstacle detection is not active. ATTENTION: with actuators with integrated locks, the permanently active slowdown to a value higher than 5 is mandatory. WARNING: in GIUNO, the slow-down distance is set with the sliding sensors
c L d i S t o S L o u d	0	50	10		Slow-down distance during closing [%]	Slow-down distance for motor(s) during closing, given as a percentage of total travel. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: when the display reads "SET", obstacle detection is not active. ATTENTION: with actuators with integrated locks, the permanently active slowdown to a value higher than 5 is mandatory. WARNING: in GIUNO, the slow-down distance is set with the sliding sensors

7. Apply pressure-sensitive or electro-sensitive protective devices (such as a safety edge) (**)
 8. Check the impact forces again: if they fall within the limits (**) skip to point 10 of the procedure, otherwise
 9. Allow the drive to move only in "Deadman" mode
 10. Make sure all devices designed to detect obstacles within the system's operating range are working properly
- (*) Before running the autose function, make sure you have performed all the assembly and make-safe operations correctly, as set out in the installation warnings in the drive's manual.
- (**) Based on the risk analysis, you may find it necessary to apply sensitive protective devices anyway

7.8) STATISTICS MENU

Used to view the version of the board, the total number of operations (in hundreds), the number of transmitters memorized and the last 30 errors (the first 2 digits indicate the position, the last 2 give the error code). Error 01 is the most recent.

7.9) PASSWORD MENU

Used to set a password for the board's wireless programming via the U-link network. With "PROTECTION LEVEL" logic set to 1,2,3,4, the password is required to access the programming menus. After 10 consecutive failed attempts to log in, you will need to wait 3 minutes before trying again. During this time, whenever an attempt is made to log in, the display will read "BLOC". The default password is 1234.

8) CLOSING LIMIT SWITCH PRESSURE Fig. O Ref. A-B OPENING DIRECTION Fig. J

9) CONNECTION WITH EXPANSION BOARDS AND UNIVERSAL HANDHELD PROGRAMMER (Fig. N) Refer to specific manual.

10) U-LINK OPTIONAL MODULES

Refer to the U-link instructions for the modules.

The use of some models causes lowered radio capacity. Adjust the system using an appropriate antenna tuned to 433MHz.

11) RESTORING FACTORY SETTINGS Fig.P

WARNING: this operation will restore the control unit's factory settings and all transmitters stored in its memory will be deleted.

WARNING! Incorrect settings can result in damage to property and injury to people and animals.

- Cut off power to the board (Fig.P ref.1)
- Open the Stop input and press the - and OK keys together (Fig.P ref.2)
- Switch on the board's power (Fig.P ref.3)
- The display will read RST; confirm within 3 sec. by pressing the OK key (Fig.P ref.4)
- Wait for the procedure to finish (Fig.P ref.5)
- Procedure finished (Fig.P ref.6)

WARNING! Incorrect settings can result in damage to property and injury to people and animals.

WARNING: Check that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453.



Impact forces can be reduced by using deformable edges.

For best results, it is advisable to run the autose function with the motors idle (i.e. not overheated by a considerable number of consecutive operations).

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Parameter	min.	max.	Default	Personal	Definition	Description
d IStdEcEL	0	50	15		Deceleration distance [%]	Deceleration distance (switch from running speed to slow-down speed) for motor(s) both during opening and during closing, given as a percentage of total travel. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: when the display reads "SET", obstacle detection is not active.
P R r t I R L o P E n i n G	10	99	99		Partial opening M1 [%]	Partial opening distance as a percentage of total opening following activation of PED pedestrian command.
o P F o r c E	1	99	50		Leaf force during opening [%]	Force exerted by leaf/leaves during opening. This is the percentage of force delivered, beyond the force stored during the autosect cycle (and subsequently updated), before an obstacle alarm is generated. The parameter is set automatically by the autosect function.  WARNING: It affects impact force directly: make sure that current safety requirements are met with the set value (*). Install anti-crush safety devices where necessary (**).
c L S F o r c E	1	99	50		Leaf force during closing [%]	Force exerted by leaf/leaves during closing. This is the percentage of force delivered, beyond the force stored during the autosect cycle (and subsequently updated), before an obstacle alarm is generated. The parameter is set automatically by the autosect function.  WARNING: It affects impact force directly: make sure that current safety requirements are met with the set value (*). Install anti-crush safety devices where necessary (**).
o P S P E E d	15	99	99		Opening speed [%]	Percentage of maximum speed that can be reached by motor(s) during opening. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: when the display reads "SET", obstacle detection is not active.
c L S P E E d	15	99	99		Closing speed [%]	Percentage of maximum speed that can be reached by motor(s) during closing. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: when the display reads "SET", obstacle detection is not active.
S L o w S P E E d	15	99	25		Slow-down speed [%]	Opening and closing speed of motor(s) during slow-down stage, given as a percentage of maximum running speed. WARNING: Once the parameter has been edited, a complete uninterrupted opening-closing cycle is required. WARNING: When the display reads "SET", obstacle detection is not active.
P R i n t E n A n c E	0	250	0		Programming number of operations for maintenance threshold [in hundreds]	Allows you to set a number of operations after which the need for maintenance will be reported on the AUX output configured as Maintenance or Flashing Light and Maintenance.

(*) In the European Union, apply standard EN 12453 for force limitations, and standard EN 12445 for measuring method.

(**) Impact forces can be reduced by using deformable edges.

TABLE "B" - LOGIC MENU - (L o G i c)

Logic	Definition	Default	Cross out setting used	Optional extras
Motor type	(Set the type of motor connected to the board).	0	0	Motors not active
			1	ELI 250 BT - Do not use
			2	PHOBOS N BT - Do not use
			3	IGEA BT - Do not use
			4	LUX BT - Do not use
			5	LUX G BT - Do not use
			6	SUB BT - Do not use
			7	KUSTOS BT A - PHOBOS BT A - Do not use
			8	GIUNO ULTRA BT A 20 - GIUNO ULTRA BT A50 - Do not use
			9	VIRGO SMART BT A - 5 wires
10	VIRGO SMART BT A - 3 wires			
t c R	Automatic Closing Time	0	0	Logic not enabled
			1	Switches automatic closing on
F A S T c L S	Fast closing	0	0	Logic not enabled
			1	Closes 3 seconds after the photocells are cleared before waiting for the set TCA to elapse.
S T E P - b y - S T E P o - u P e n t	Step-by-step movement	0	0	Inputs configured as Start E, Start I, Ped operate with 4-step logic.
			1	Inputs configured as Start E, Start I, Ped operate with 3-step logic. Pulse during closing reverses movement.
			2	Inputs configured as Start E, Start I, Ped operate with 2-step logic. Movement reverses with each pulse.
P r E - A L A r n	Pre-alarm	0	0	The flashing light comes on at the same time as the motor(s) start.
			1	The flashing light comes on approx. 3 seconds before the motor(s) start.
h o l d - t o - r u n	Deadman	0	0	Pulse operation.
			1	Deadman mode. Input 61 is configured as OPEN UP. Input 62 is configured as CLOSE UP. Operation continues as long as the OPEN UP or CLOSE UP keys are held down.  WARNING: safety devices are not enabled.
			2	Emergency Deadman mode. Usually pulse operation. If the board fails the safety device tests (photocell or safety edge, Er0x) 3 times in a row, the device is switched to Deadman mode, which will stay active until the OPEN UP or CLOSE UP keys are released. Input 61 is configured as OPEN UP. Input 62 is configured as CLOSE UP.  WARNING: with the device set to Emergency Deadman mode, safety devices are not enabled.
i b L o P E n	Block pulses during opening	0	0	Pulse from inputs configured as Start E, Start I, Ped has effect during opening.
			1	Pulse from inputs configured as Start E, Start I, Ped has no effect during opening.

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Logic	Definition	Default	Cross out setting used	Optional extras
ibl tCA	Block pulses during TCA	0	0	Pulse from inputs configured as Start E, Start I, Ped has effect during TCA pause.
			1	Pulse from inputs configured as Start E, Start I, Ped has no effect during TCA pause.
ibl cLOSE	Block pulses during closing	0	0	Pulse from inputs configured as Start E, Start I, Ped has effect during closing.
			1	Pulse from inputs configured as Start E, Start I, Ped has no effect during closing.
rAP bLOw cOP	Hammer during opening	0	0	Logic not enabled
			1	Before opening completely, the gate pushes for approx. 2 seconds as it closes. This allows the solenoid lock to be released more easily. IMPORTANT - Do not use this function if suitable mechanical stops are not in place.
rAP bLOw cCL	Hammer during closing	0	0	Logic not enabled
			1	Before closing completely, the gate pushes for approx. 2 seconds as it opens. This allows the solenoid lock to be released more easily. IMPORTANT - Do not use this function if suitable mechanical stops are not in place.
bLac PER- SISE	Stop maintenance	0	0	Logic not enabled
			1	If motors stay idle in fully open or fully closed position for more than one hour, they are switched on in the direction of the stop for approx. 3 seconds. This operation is performed every hour. NB: In hydraulic motors, this function serves to compensate a possible reduction in the volume of oil due to a drop in temperature during extended pauses, such as during the night, or due to internal leakage. IMPORTANT - Do not use this function if suitable mechanical stops are not in place.
PrESS SUC	Closing limit switch pressure	0	0	Movement is stopped only when the closing limit switch trips: in this case, the tripping of the closing limit switch must be adjusted accurately (Fig.G Ref.B).
			1	Use when there is a mechanical stop in closed position. This function allows leaves to press against the mechanical stop without the Amperostop sensor interpreting this as an obstacle. Thus the rod continues its stroke for a few seconds after meeting the closing limit switch or as far as the mechanical stop. In this way, the leaves come to rest perfectly against the stop by allowing the closing limit switches to trip slightly earlier (Fig.G Ref.A).
ICE	Ice feature	0	0	The Amperostop safety trip threshold stays at the same set value.
			1	The controller automatically adjusts the obstacle alarm trip threshold at each start up. Check that the force of impact measured at the points provided for by standard EN 12445 is lower than the value laid down by standard EN 12453. If in doubt, use auxiliary safety devices. This feature is useful when dealing with installations running at low temperatures. WARNING: once this feature has been activated, you will need to perform an autosest opening and closing cycle.
1 Motor	1 motor active	0	0	Both motors active (2 leaves).
			1	Only motor 1 active (1 leaf).
chAnGE Mot	Reversal of the motor time lag	0	0	Opening: M1 starts in advance in comparison with M2 (opening time lag). (See Fig. J) Closing: M2 starts in advance in comparison with M1 (closing time lag). (See Fig. J) The pedestrian operation is performed by M1
			1	Opening: M2 starts in advance in comparison with M1 (opening time lag). (See Fig. J) Closing: M1 starts in advance in comparison with M2 (closing time lag). (See Fig. J) The pedestrian operation is performed by M2
oPEN In othEr di- rEct.	Open in other direction	0	0	Standard operating mode (See Fig.J).
			1	Opens in other direction to standard operating mode (See Fig. J)
SAFE 1	Configuration of safety input SAFE 1. 72	0	0	Input configured as Phot (photocell).
			1	Input configured as Phot test (tested photocell).
			2	Input configured as Phot op (photocell active during opening only).
			3	Input configured as Phot op test (tested photocell active during opening only).
SAFE 2	Configuration of safety input SAFE 2. 74	6	4	Input configured as Phot cl (photocell active during closing only).
			5	Input configured as Phot cl test (tested photocell active during closing only).
			6	Input configured as Bar, safety edge.
			7	Input configured as Bar, tested safety edge.
			8	Input configured as Bar 8k2.
			9	Input configured as Bar OP, safety edge with inversion active only while opening. If while closing, the movement stops.
			10	Input configured as Bar OP TEST, safety edge tested with inversion active only while opening. If while closing, the movement stops.
			11	Input configured as Bar OP 8k2, safety edge with inversion active only while opening. If while closing, the movement stops.
			12	Input configured as Bar CL, safety edge with inversion active only while closing. If while opening, the movement stops.
			13	Input configured as Bar CL TEST, safety edge tested with inversion active only while closing. If while opening, the movement stops.
			14	Input configured as Bar CL 8k2, safety edge with inversion active only while closing. If while opening, the movement stops.
IC 1	Configuration of command input IC 1. 61	0	0	Input configured as Start E.
			1	Input configured as Start I.
			2	Input configured as Open.
			3	Input configured as Close.
IC 2	Configuration of command input IC 2. 62	4	4	Input configured as Ped.
			5	Input configured as Timer.
			6	Input configured as Timer Pedestrian.

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Logic	Definition	Default	Cross out setting used	Optional extras
AUX 0	Configuration of AUX 0 output. 20-21	6	0	Output configured as 2nd Radio Channel.
			1	Output configured as SCA (gate open light).
			2	Output configured as Courtesy Light command.
			3	Output configured as Zone Light command.
AUX 3	Configuration of AUX 3 output. 26-37	0	4	Output configured as Stair Light
			5	Output configured as Alarm
			6	Output configured as Flashing light
			7	Output configured as Latch
			8	Output configured as Magnetic lock
			9	Output configured as Maintenance
			10	Output configured as Flashing Light and Maintenance.
Fixed code	Fixed code	0	0	Receiver is configured for operation in rolling-code mode. Fixed-Code Clones are not accepted.
			1	Receiver is configured for operation in fixed-code mode. Fixed-Code Clones are accepted.
Protection LEVEL	Setting the protection level	0	0	A - The password is not required to access the programming menus B - Enables wireless memorizing of transmitters. Operations in this mode are carried out near the control panel and do not require access: - Press in sequence the hidden key and normal key (T1-T2-T3-T4) of a transmitter that has already been memorized in standard mode via the radio menu. - Press within 10 sec. the hidden key and normal key (T1-T2-T3-T4) of a transmitter to be memorized. The receiver exits programming mode after 10 sec.; you can use this time to enter other new transmitters by repeating the previous step. C - Enables wireless automatic addition of clones. Enables clones generated with the universal programmer and programmed Replays to be added to the receiver's memory. D - Enables wireless automatic addition of replays. Enables programmed Replays to be added to the receiver's memory. E - The board's parameters can be edited via the U-link network
			1	A - You are prompted to enter the password to access the programming menus The default password is 1234. No change in behaviour of functions B - C - D - E from 0 logic setting
			2	A - You are prompted to enter the password to access the programming menus The default password is 1234. B - Wireless memorizing of transmitters is disabled. C - Wireless automatic addition of clones is disabled. No change in behaviour of functions D - E from 0 logic setting
			3	A - You are prompted to enter the password to access the programming menus The default password is 1234. B - Wireless memorizing of transmitters is disabled. D - Wireless automatic addition of Replays is disabled. No change in behaviour of functions C - E from 0 logic setting
			4	A - You are prompted to enter the password to access the programming menus The default password is 1234. B - Wireless memorizing of transmitters is disabled. C - Wireless automatic addition of clones is disabled. D - Wireless automatic addition of Replays is disabled. E - The option of editing the board's parameters via the U-link network is disabled. Transmitters are memorized only using the relevant Radio menu. IMPORTANT: This high level of security stops unwanted clones from gaining access and also stops radio interference, if any.
Serial mode	Serial mode (Identifies how board is configured in a BFT network connection).	0	0	Standard SLAVE: board receives and communicates commands/diagnostics/etc.
			1	Standard MASTER: board sends activation commands (START, OPEN, CLOSE, PED, STOP) to other boards.
Address	Address	0	[____]	Identifies board address from 0 to 119 in a local BFT network connection. (see U-LINK OPTIONAL MODULES section)
EXPI1	Configuration of EXPI1 input on input-output expansion board. 1-2	1	0	Input configured as Start E command.
			1	Input configured as Start I command.
			2	Input configured as Open command.
			3	Input configured as Close command.
			4	Input configured as Ped command.
			5	Input configured as Timer command.
			6	Input configured as Timer Pedestrian command.
			7	Input configured as Phot (photocell) safety.
			8	Input configured as Phot op safety (photocell active during opening only).
			9	Input configured as Phot cl safety (photocell active during closing only).
			10	Input configured as Bar safety (safety edge).
			11	Input configured as safety Bar OP, safety edge with inversion active only while opening, if while closing the movement stops.
			12	Input configured as safety Bar CL, safety edge with inversion active only while closing, if while opening the movement stops.
			13	Input configured as Phot test safety, tested photocell. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1.
			14	Input configured as Phot op test safety, tested photocell active only while opening. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1
			15	Input configured as Phot cl test safety, tested photocell active only while closing. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1
			16	Input configured as Bar safety, tested safety edge. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1.
			17	Input configured as safety Bar OP test, safety edge with inversion active only while opening, if while closing the movement stops. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1.
			18	Input configured as safety Bar CL test, safety edge with inversion active only while closing, if while opening the movement stops. Input 3 (EXPI2) on input/output expansion board is switched automatically to safety device test input, EXPFAULT1.

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Logic	Definition	Default	Cross out setting used	Optional extras
<i>EHP 12</i>	Configuration of EXPI2 input on input-output expansion board. 1-3	0	0	Input configured as Start E command.
			1	Input configured as Start I command.
			2	Input configured as Open command.
			3	Input configured as Close command.
			4	Input configured as Ped command.
			5	Input configured as Timer command.
			6	Input configured as Timer Pedestrian command.
			7	Input configured as Phot (photocell) safety.
			8	Input configured as Phot op safety (photocell active during opening only).
			9	Input configured as Phot cl safety (photocell active during closing only).
			10	Input configured as Bar safety (safety edge).
			11	Input configured as safety Bar OP, safety edge with inversion active only while opening, if while closing the movement stops.
			12	Input configured as safety Bar CL, safety edge with inversion active only while closing, if while opening the movement stops.
<i>EXPO 1</i>	Configuration of EXPO2 output on input-output expansion board 4-5	11	0	Output configured as 2 nd Radio Channel.
			1	Output configured as SCA (gate open light).
			2	Output configured as Courtesy Light command.
			3	Output configured as Zone Light command.
			4	Output configured as Stair Light.
<i>EXPO 2</i>	Configuration of EXPO2 output on input-output expansion board 6-7	11	5	Output configured as Alarm.
			6	Output configured as Flashing light.
			7	Output configured as Latch.
			8	Output configured as Magnetic lock.
			9	Output configured as Traffic Light control with TLB board.
			10	Output configured as Flashing Light and Maintenance.
11	Output configured as Traffic Light control with TLB board.			
<i>ErAFF 1c L IGht PrE- FLASH InG</i>	Traffic light pre-flashing	0	0	Pre-flashing switched off.
			1	Red lights flash, for 3 seconds, at start of operation.
<i>ErAF- F 1c L IGht rEd LAMP ALWAYS on</i>	Steadily lit red light	0	0	Red lights off when gate closed.
			1	Red lights on when gate closed.

TABLE "C" – RADIO MENU (*rRad io*)

Logic	Description
<i>Add Start</i>	Add Start Key associates the desired key with the Start command
<i>Add 2ch</i>	Add 2ch Key associates the desired key with the 2nd radio channel command. Associates the desired key with the 2nd radio channel command. If no output is configured as 2nd Radio Channel Output, the 2nd radio channel controls the pedestrian opening.
<i>ErASE 64</i>	Erase List  WARNING! Erases all memorized transmitters from the receiver's memory.
<i>cod rH</i>	Read receiver code Displays receiver code required for cloning transmitters.
<i>Wk</i>	ON = Enables remote programming of cards via a previously memorized W LINK transmitter. It remains enabled for 3 minutes from the time the W LINK transmitter is last pressed. OFF = W LINK programming disabled.