ELEVO

EN Instructions and warnings for installation and use

Made in Italy

INDEX

EN

1 - IMPORTANT REMARKS

⚠ Prior to proceeding with installation, it is essential the instructions be read in full, since they contain important information regarding safety, installation, use and maintenance.

EN

AUTOMATION MUST BE IMPLEMENTED IN COMPLIANCE WITH THE EUROPEAN REGULATIONS IN FORCE:
EN 60204-1, EN 12453, EN 13241-1, EN 12635

- The installer must provide for a device (es. magnetotermical switch) ensuring the omnipolar sectioning of the equipment from the power supply. The standards require a separation of the contacts of at least 3 mm in each pole (EN 60335-1).
- Installation requires mechanical and electrical skills, therefore it shall be carried out by qualified personnel only, who can issue the Compliance Certificate concerning the whole installation (Machine Directive 2006/42/CE).
- It is mandatory to comply with standard EN 13241-1 and any other national provisions.
- Also the automation upstream electric system shall comply with the laws and rules in force and be carried out workmanlike. V2 S.p.A. declines any responsibility in case of automation upstream electric system not complying with the laws and rules in force and not carried out workmanlike
- The gate's thrust force and its sensitivity to obstacles shall be measured using an appropriate tool and adjusted in compliance with the maximum permitted values, provided in standard EN 12453.
- This test and measurement of force may only be performed by a professional. When hitting an obstacle the door has to stop and reverse (completely or partially, depending on the setting of the PCB).
  If the gate does not slide on the requested path or if it does not change its sliding direction as soon as it detects an obstacle, you need to readjust the obstacle detection sensitivity. Then please repeat the test.
  If the door after the performed corrections does not stop and reverse according to the valid norms, the door may not be operated automatically.
- The use of ELEVO in dusty, saline or explosive environment is forbidden
- The opener is designed for operation in dry rooms exclusively
- For the safety and life of persons it is absolutely necessary to follow all instructions.
- Keep these instructions save for later reference
- Do not permit children to play with the automated garage door. Transmitters are to be kept safe and away from children!
- Electromechanical actuators are not intended for use by people (including children) with reduced physical, sensory or mental abilities, or with lack of experience and knowledge, unless they are supervised or have been instructed on the use of the actuator by a person responsible for their safety.
- The sound pressure level of the A-weighted emission is less than 70 dB (A)
- Cleaning and maintenance intended to be carried out by the user must not be carried out by children without supervision
- Before working on the system (maintenance, cleaning), always disconnect the product from the power supply and any buffer batteries
- Only operate the door if the entire door area is in your field of view. Always be sure, that no persons or objects are located within traveling range of the door
- Do not use the opener when service or adjustment work is required. A badly balanced door, or a faulty garage door system may cause injuries.
- Please inform all persons using the door system on how to operate it correctly and safely.
- Check often the automation, particularly the cables, springs and mechanic parts for wear and tear, damages and unbalancing.
- The plug must be at easy reach, after the installation.
- The data on the plate of the product are written on the label put next to the connection terminal board.
- Any control devices installed in fixed locations (such as buttons or similar devices) must be positioned within the field of view of the gate, at a height of at least 1.5m from the ground.
  It is essential that they are mounted out of reach of children!
- The automatic door may work unexpectedly, therefore do not allow anything to remain in the path of the door.
- Affix warning signs indicating the risk of being caught in the door where they may be seen immediately or in the vicinity of the permanently mounted push button.

V2 has the right to modify the product without previous notice; it also declines any responsibility to damage or injury to people or things caused by improper use or wrong installation.

1.1 - MAINTENANCE INTERVENTIONS

Listed below are the interventions that the user must periodically perform:

- Surface cleaning of the devices: use a slightly damp (not wet) cloth. Do not use substances containing alcohol, benzene, thinners or other flammable substances; the use of these substances could damage the devices and generate fire or electric shock.
- Removal of leaves and stones: disconnect the power supply to the automation before proceeding, to prevent someone from operating the door. If there is a backup battery, disconnect that too.

1.2 - PRELIMINARY CHECKS AND IDENTIFICATION OF THE TYPE TO BE USED

It should be remembered that the device does not compensate for defects caused by improper installation, or poor maintenance, thus, prior to proceeding with installation, ensure that the structure is suitable and meets current standards and, if necessary, perform any structural modifications aimed at the implementation of safety gaps and the protection or segregation of all crushing, shearing and transit zones, and verify that:

- The door must be suitable to be automated (check the door operation manual and directions). The door structure itself must be stout and appropriate to be automated.
- Check the door to be provided with anti-fall system (independent of the suspension system).
- The door must be functional and safe.
- The door must open and close easily without any friction.
- The door must be properly balanced both before and after its automation: stopping the door in any position, it must not move (carry out a balance weight adjustment, if necessary)..
- Fix the engine steadily and using suitable material.
- If necessary, make the structural calculation and enclose to the technical specification paper.
- It is advisable to install the geared motor in the centre of the door; it is permitted to move aside 100 mm to install the sliding arm accessory 162504.
- In case of counterbalanced door, check that the minimum distance between the track and the door must not be under 20 mm

Warning: The minimum safety level depends on the type of use; please refer to the following outline:

	CLOSURE USE TYPE		
TYPE OF ACTIVATION COMMANDS	**GROUP 1** Informed people (use in private area)	**GROUP 2** Informed people (use in public area)	**GROUP 3** Informed people (unlimited use)
Man-present command	A	B	Not possible
Remote control and closure in view (e.g. infrared)	C or E	C or E	C and D or E
Remote control and closure not in view (e.g. radio)	C or E	C and D or E	C and D or E
Automatic control (e.g. timed closure control)	C and D or E	C and D or E	C and D or E

GROUP 1 - Only a limited number of people are authorised for use, and closure is not in a public area. Examples of this type are gates inside business premises, where the sole users are employees, or a part of them who have been suitably informed.

GROUP 2 - Only a limited number of people are authorised for use, but in this case, closure is in a public area. An example of this may be a company gate that accesses onto a public street, and which is only used by employees.

GROUP 3 - Anyone can use the automated closure, which is thus located on public land. For example the access gate to a supermarket or an office, or a hospital.

PROTECTION A - Closure is activated by means of a control button with the person present, i.e. with maintained action.

PROTECTION B - With the person present, closure is activated by a command controlled by means of a key-switch or the like, in order to prevent use by unauthorised persons.

PROTECTION C - Restricts the force of the leaf of the door or gate. I.e., in the case of the gate striking an obstacle, the impact force must fall within a curve established by the regulations.

PROTECTION D - Devices, such as photocells, capable of detecting the presence of people or obstacles. They may be active on just one side or on both sides of the door or gate.

PROTECTION E - Sensitive devices, such as footboards or immaterial barriers, capable of detecting the presence of a person, and installed in such a way that the latter cannot be struck in any way by a moving leaf or panel. These devices should be active within the entire "danger zone" of the gate. The Machinery Directive defines "Danger Zone" as any zone surrounding and/or near machinery where the presence of an exposed person constitutes a risk to the health and safety of that person.

The risk analysis should take into consideration all danger zones for the automation device, which should be appropriately protected and marked.

In a clearly visible area, apply a sign with information identifying the motorised door or gate.

The installer should provide the user with all the information relating to automatic operation, emergency opening and maintenance of the motorised door or gate.

1.3 - DISPOSAL OF THE PRODUCT

EN

As for the installation operations, even at the end of this product's life span, the dismantling operations must be carried out by qualified experts.
This product is made up of various types of materials: some can be recycled while others need to be disposed of.
Find out about the recycling or disposal systems envisaged by your local regulations for this product category.

Important! – Parts of the product could contain pollutants or hazardous substances which, if released into the environment, could cause harmful effects to the environment itself as well as to human health.
As indicated by the symbol opposite, throwing away this product as domestic waste is strictly forbidden. So dispose of it as differentiated waste, in accordance with your local regulations, or return the product to the retailer when you purchase a new equivalent product.

Important! – the local applicable regulations may envisage heavy sanctions in the event of illegal disposal of this product.

1.4 - TECHNICAL ASSISTANCE SERVICE

For any installation problem please contact our Customer Service at the number +39 0172 1812574 operating Monday to Friday from 8:30 to 12:30 and from 14:00 to 18:00.

1.5 - EU DECLARATION OF CONFORMITY AND DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINE

Declaration in accordance with Directives: 2014/35/UE (LVD); 2014/30/UE (EMC); 2006/42/CE (MD) ANNEX II, PART B

The manufacturer V2 S.p.A., headquarters in Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italy

Under its sole responsibility hereby declares that:
the partly completed machinery model(s):
ELEVO620, ELEVO1000

Description: electromechanical actuator for garage doors

- is intended to be installed on garage doors to create a machine according to the provisions of the Directive 2006/42/EC. The machinery must not be put into service until the final machinery into which it has to be incorporated has been declared in conformity with the provisions of the Directive 2006/42/EC (annex II-A).
- is compliant with the applicable essential safety requirements of the following Directives:
  Machinery Directive 2006/42/EC (annex I, chapter 1)
  Low Voltage Directive 2014/35/EU
  Electromagnetic Compatibility Directive 2014/30/EU
  Directive ROHS2 2011/65/CE

The relevant technical documentation is available at the national authorities' request after justifiable request to:
V2 S.p.A.
Corso Principi di Piemonte 65, 12035, Racconigi (CN), Italy

The person empowered to draw up the declaration and to provide the technical documentation:
Sergio Biancheri
Legal representative of V2 S.p.A.
Racconigi, il 01/04/2019

1.6 - PRODUCT DESCRIPTION AND INTENDED USE

ELEVO is a gearmotor intended for the automation of sectional and overhead doors.
ELEVO works using electricity, in the event of a power failure, the gearmotor can be unlocked and the door can be moved manually.

2 - TECHNICAL SPECIFICATIONS

	ELEVO620	ELEVO1000
Power supply (V - Hz)	230~ - 50/60	230~ - 50/60
Maximum electric power (W)	200	300
Door area (m^2)	Sectional door < 10 Counterweight balanced door < 8,5	Sectional door < 16 Counterweight balanced door < 11
Maximum lifting weight of the door (Kg)	62	100
Start force (N)	620	1000
Maximum speed (cm/s)	19	19
Working temperature (°C)	-20 ÷ +55	-20 ÷ +55
Duty cycle (cycles / hour)	90	90
Protection degree (IP)	40	40
Motor weight (Kg)	10	10
Protection fuses	5 x 20, 1 A T ; 250 VAC	5 x 20, 2 A T ; 250 VAC

EN

2.1 - MAXIMUM SIZES

FIG. 2

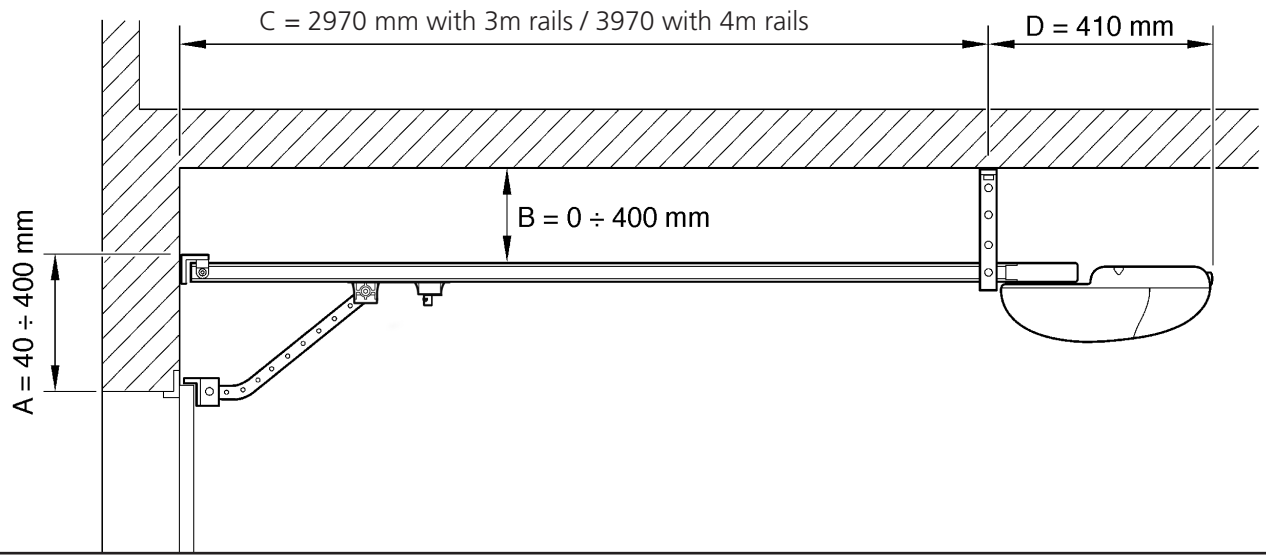
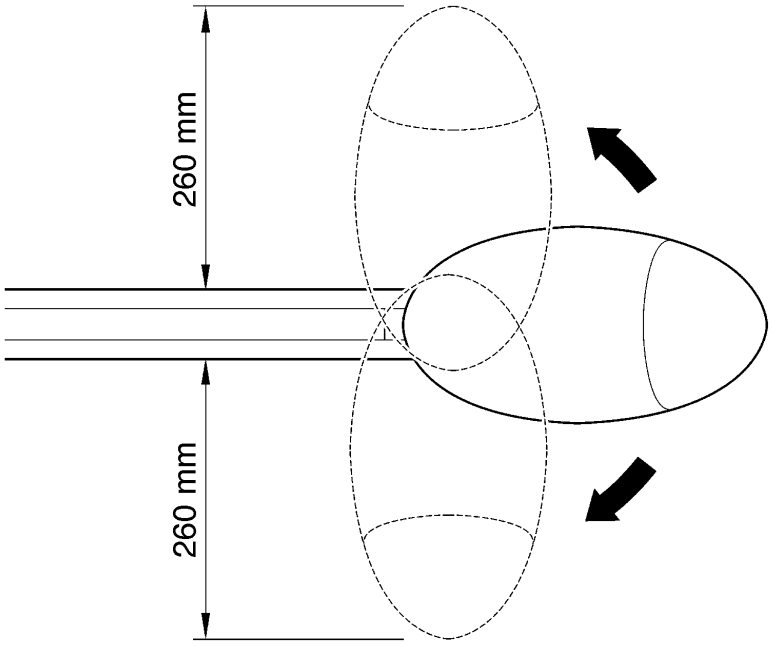
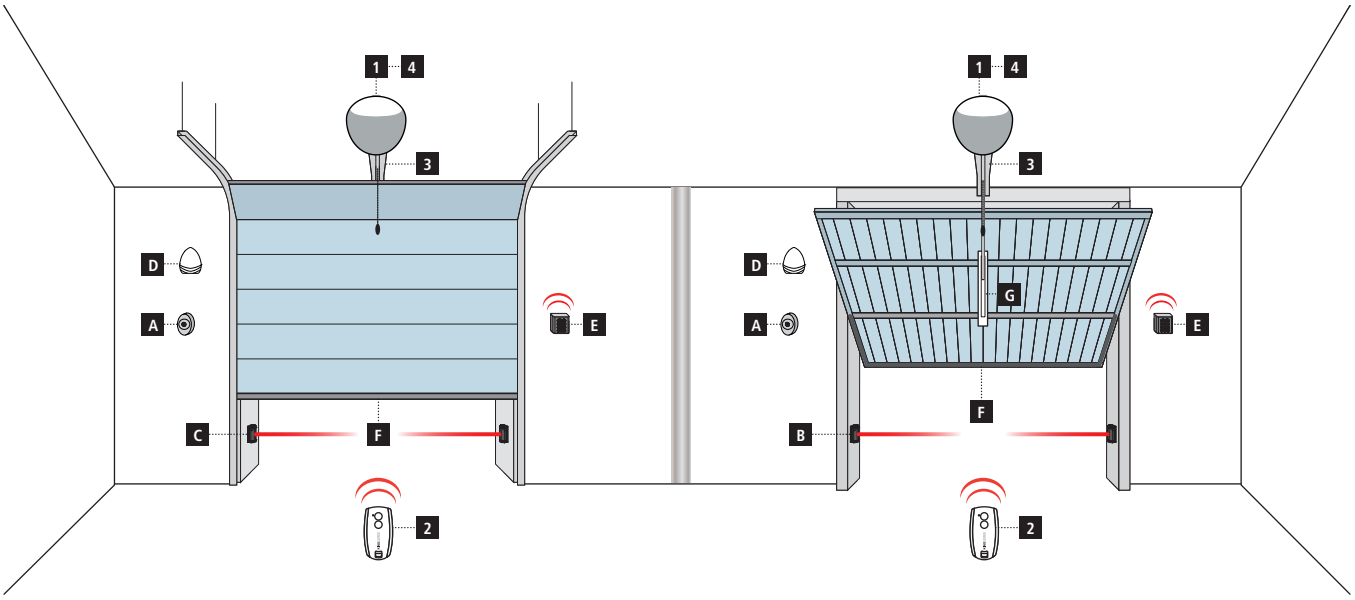


FIG. 3



2.2 - INSTALLATION LAYOUT



COMPONENTS

1 Motor
2 Transmitter
3 Guide chain / belt
4 Control unit

ADDITIONAL ACCESSORIES

A Key switch
B Internal photocell
C External photocell
D Flashing light
E Digital radio switch
F Safety edges
G Adaptor bracket for counterweight balanced doors

LENGTH OF THE CABLE	< 10 metres	from 10 to 20 metres	from 20 to 30 metres
Photocells (TX)	2 x 0,5 mm^2	2 x 0,5 mm^2	2 x 0,5 mm^2
Photocells (RX)	4 x 0,5 mm^2	4 x 0,5 mm^2	4 x 0,5 mm^2
Key switch	2 x 0,5 mm^2	2 x 0,5 mm^2	2 x 0,5 mm^2
Safety edges	2 x 0,5 mm^2	2 x 0,5 mm^2	2 x 0,5 mm^2
Flashing light	2 x 1,5 mm^2	2 x 1,5 mm^2	2 x 1,5 mm^2
Antenna (integrated into the flashing light)	RG174	RG174	RG174

3 - FITTING

Installation of the ELEVO gearmotor comprises 3 stages:

- Assembly of the guides (see sections 3.2.1 and 3.2.2).
- Mounting the gearmotor to the guide (see section 3.2.3).
- Mounting the gearmotor to the ceiling (see section 3.2.4)

3.2.1 - ASSEMBLY OF GUIDE

NOTE: the guides to be assembled are only available for the ELEVO620 model.

1. Referring to fig. 4, remove the belt tensioner device (4a); insert one end of the belt into the pulley (4b); reintroduce the belt tensioner device into the guide (4c).
2. Pass the same end of the belt through the head [A], as in fig. 5.
   NB - Make sure that the belt is correctly positioned: it must be with the teeth facing inwards, straight and without twists.
3. Turn the lower section of the carriage so that the grooves correspond with the two ends of the belt, as in fig. 6.
4. Place both ends of the belt into all the shaped slots of the lower carriage [B]. Secure the ends of the belt with the 2 screws (V4.2x9.5) and 2 washers (R05), as in fig. 7.
5. Fix the belt guide [C] to the upper carriage [D] with the V6x18 screw and related M6 nut, as in fig. 8.
6. Insert the upper carriage [D] into the lower carriage [B] and place the entire carriage assembly inside the guide, as in fig. 9.
7. Hammer the three pieces of the guide into place inside the connection brackets [E], as in fig. 10 and 11.
   Important – the guides must slide into the brackets until they click into position.
8. Carefully position the belt into the guide, making sure that it is not twisted.
9. Push the head [A] into the free end of the guide using significant force, as in fig. 12.
10. Finally, tension the belt with the adjustment screw [F] of the belt tensioner device, as in fig. 13.

⚠ **CAUTION! the gearmotor could break if the belt is TOO taut, and it could cause unpleasant noise if it is TOO slack.**

3.2.2 - PREASSEMBLED GUIDE

The only operation to do is to stretch the belt using the M8 nut [F] (fig. 13).

FIG. 4

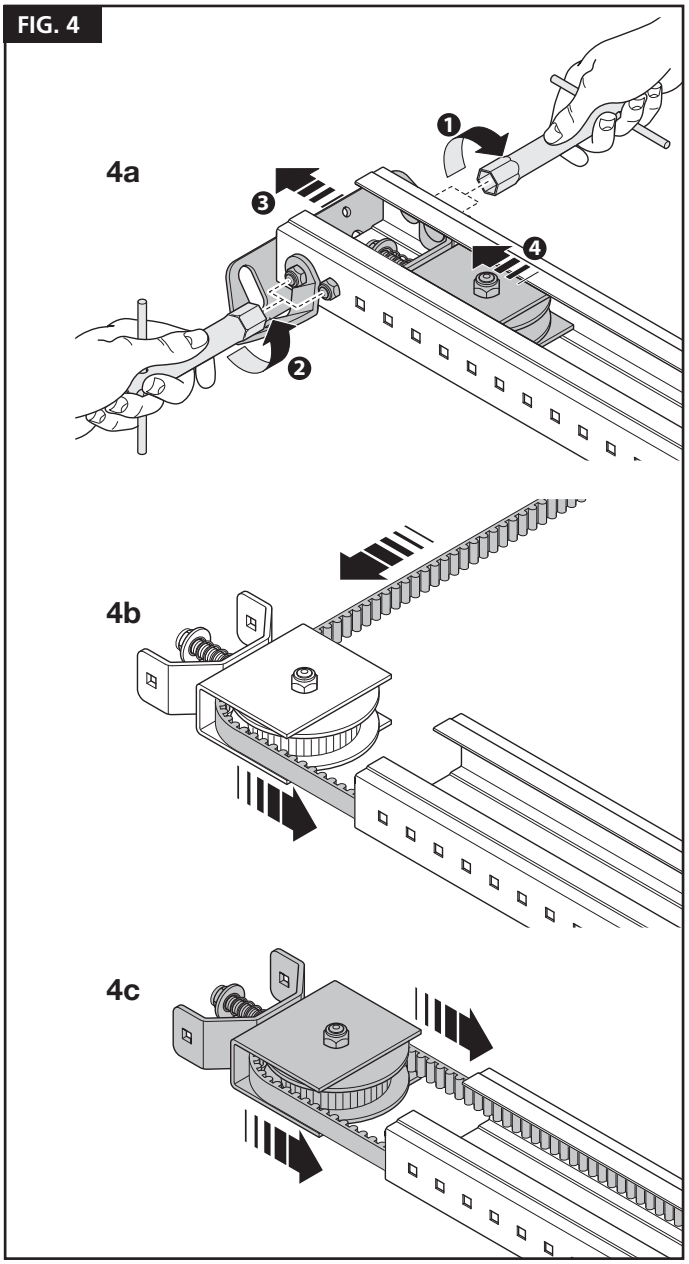


FIG. 5

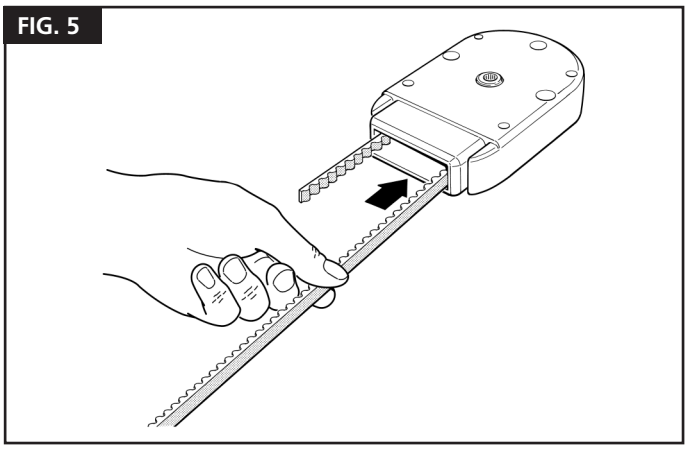
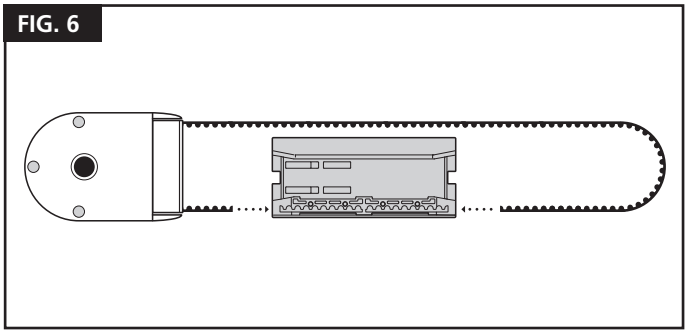


FIG. 6



EN

EN

FIG. 7

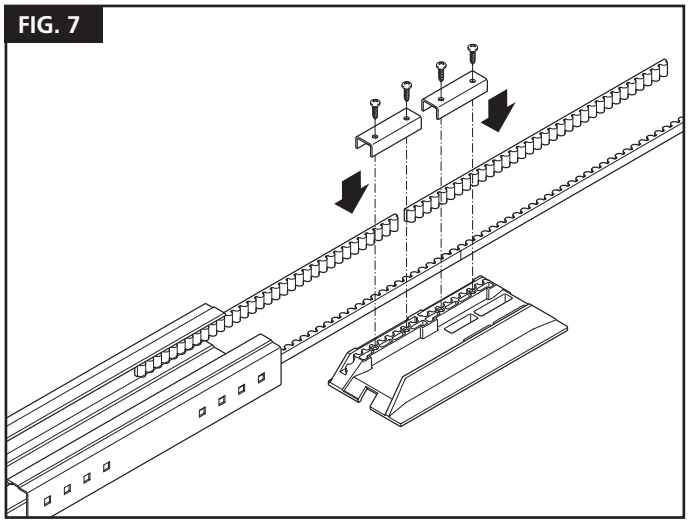


FIG. 12

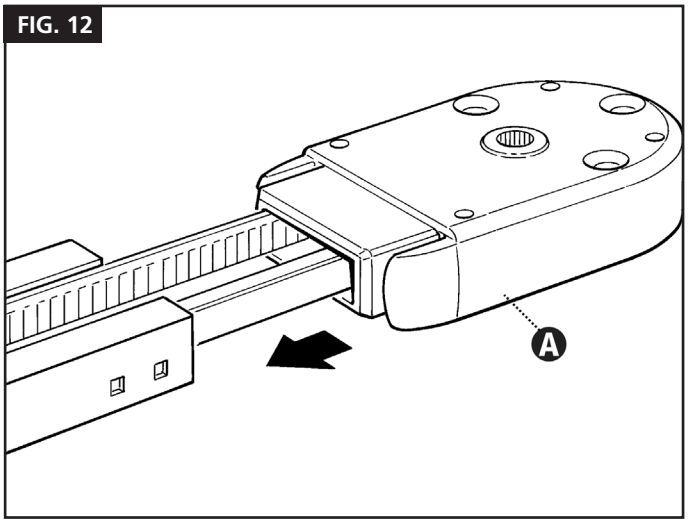


FIG. 8

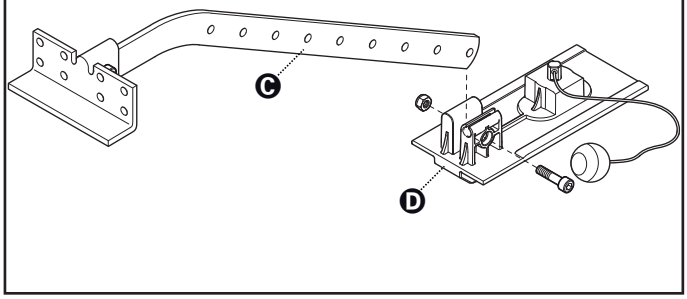


FIG. 13

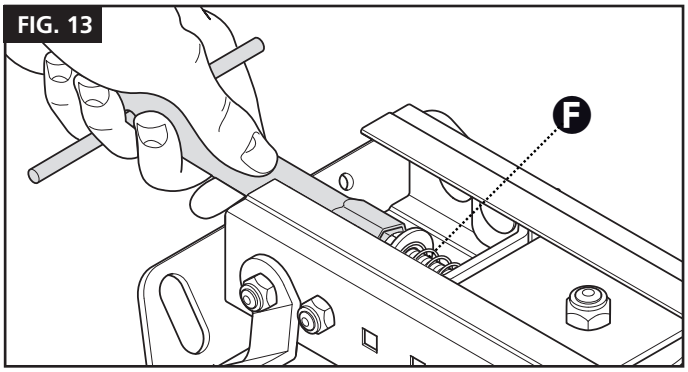


FIG. 9

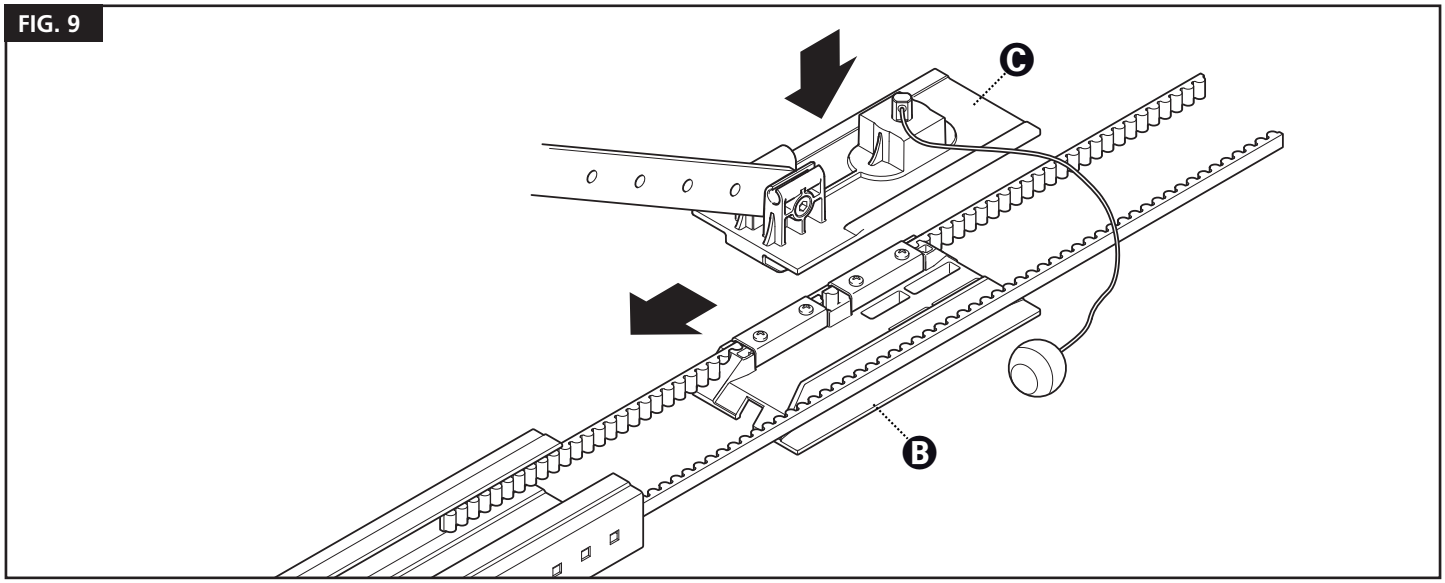


FIG. 10

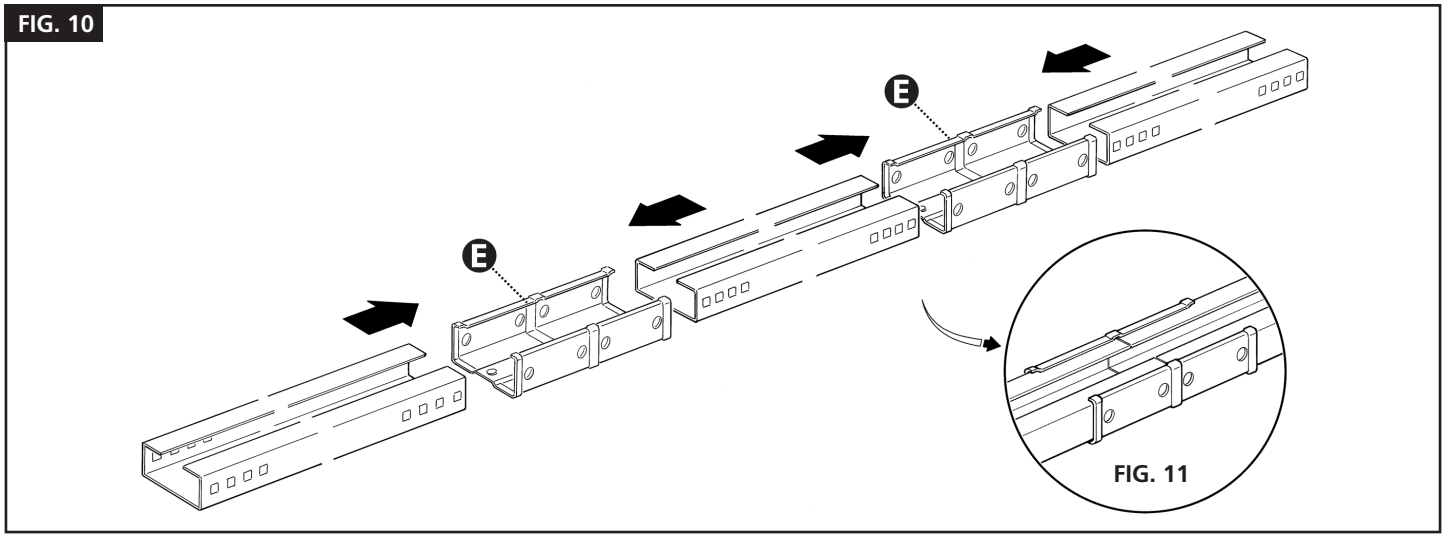
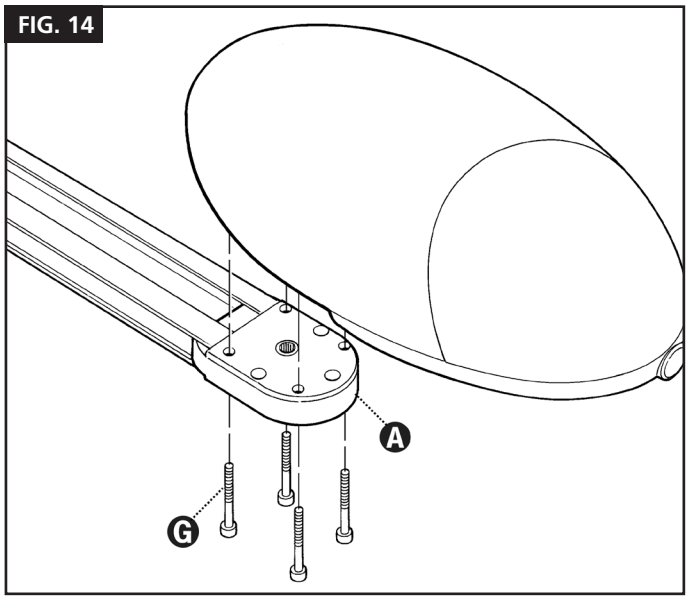


FIG. 11

3.2.3 - FITTING THE GEARMOTOR TO THE GUIDE

Fit the ELEVO gearmotor output shaft to the guide head [A] and secure using 4 M6.3x38 screws [G] (fig. 14). The gear motor rotates and can be positioned in three different ways (fig. 3).

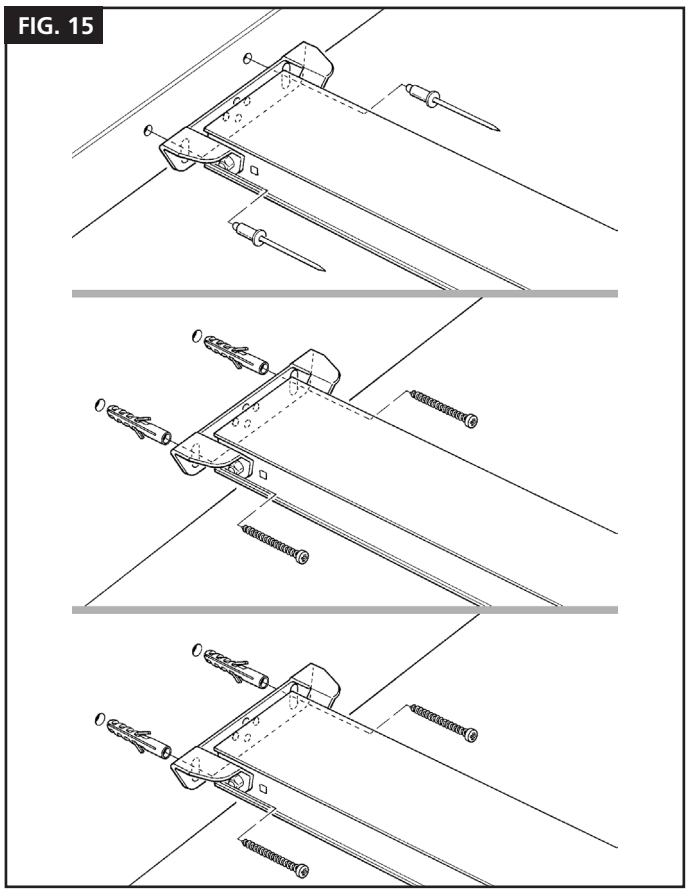
FIG. 14



3.2.4 - MOUNTING THE GEARMOTOR TO THE CEILING

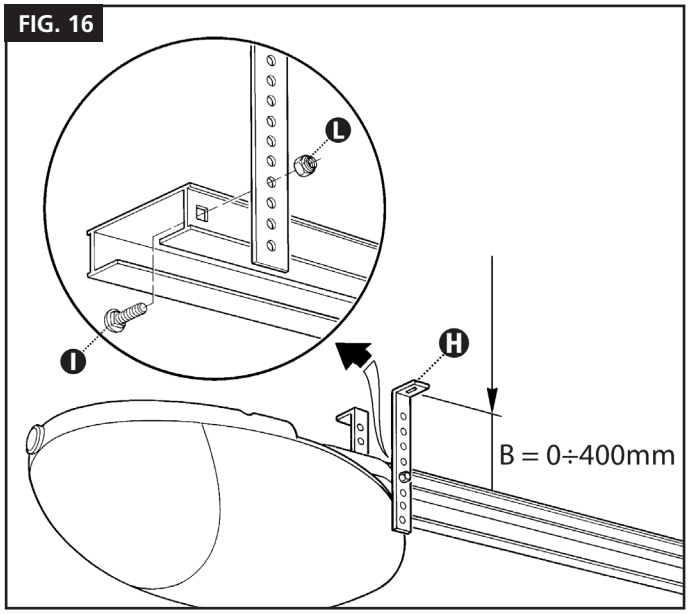
1. On the basis of distances A, B and C in fig. 2 and 3, trace the two fixing points of the front guide bracket at the centre of the door.
   On the basis of the type of support surface, the front bracket can be fixed with rivets, plugs or screws (fig. 15). If distances A, B and C (fig. 2 and 3) are sufficient, the bracket can be fixed directly onto the ceiling.

FIG. 15



2. After drilling the holes in the relative points, leaving the gearmotor on the ground, lift the guide from the front section and secure using two screws, plugs or rivets, according to the installation surface.
3. Secure the brackets [H] using the screws [I] and nuts [L], selecting the hole most suited to ensure distance B, as shown in (fig. 16)

FIG. 16



4. Using a ladder, lift the gearmotor until the brackets are touching the ceiling. Trace the drilling points and then return the gearmotor to the ground.
5. Drill at the outlined points and then, using a ladder, lift the gearmotor until the brackets are placed against the drilled holes (fig. 17) and secure using screws and plugs suited to the support surface (fig. 18).

FIG. 17

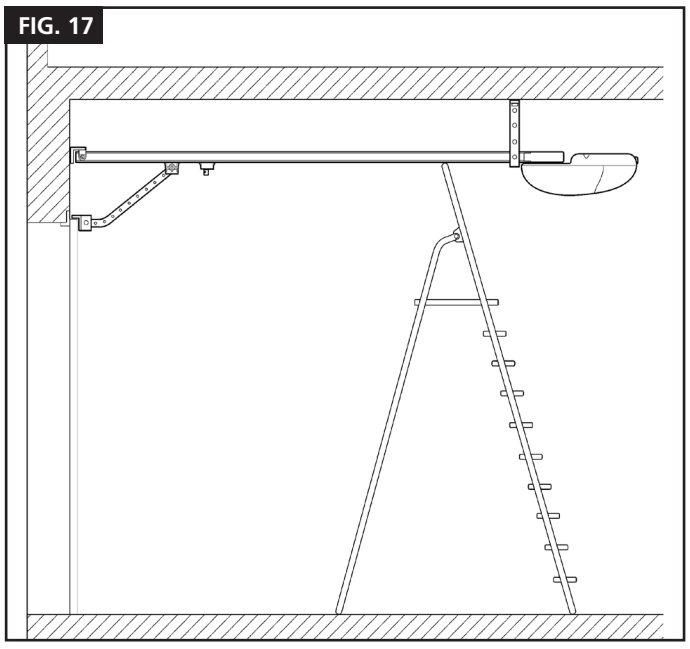
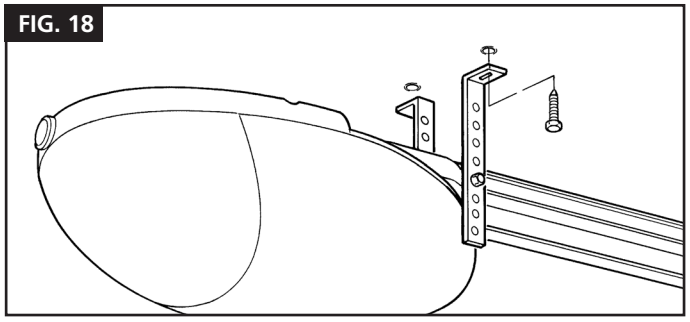


FIG. 18

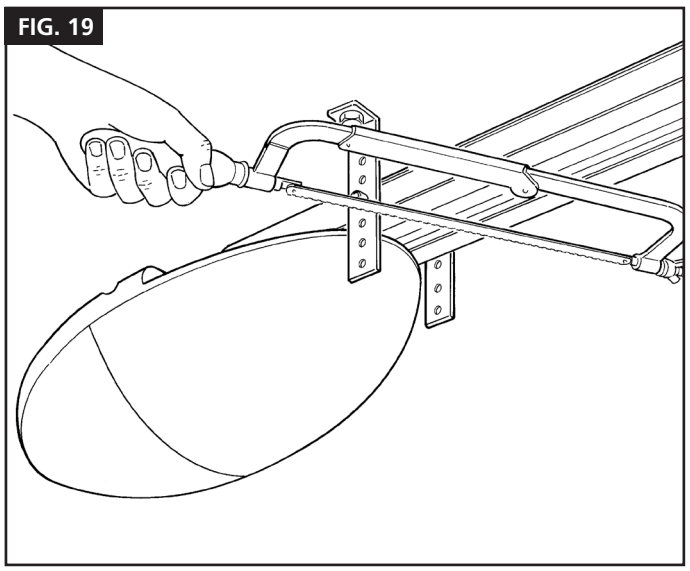


EN

EN

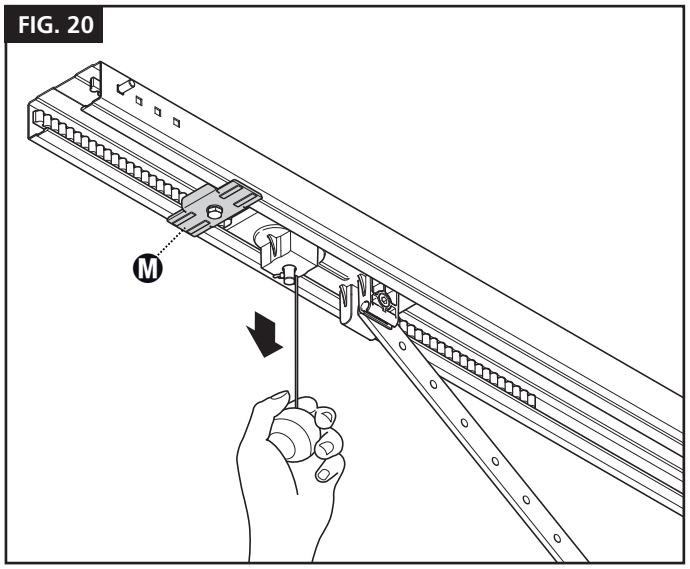
6. Ensure that the guide is perfectly horizontal, then cut off the excess section of the brackets with a saw (fig. 19).

FIG. 19



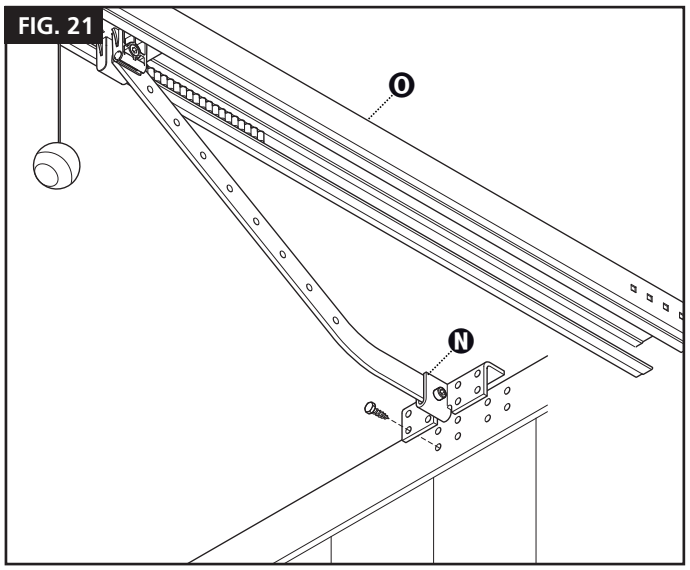
7. With the door closed, pull the cord to release carriage [M] from the guide (fig. 20).

FIG. 20



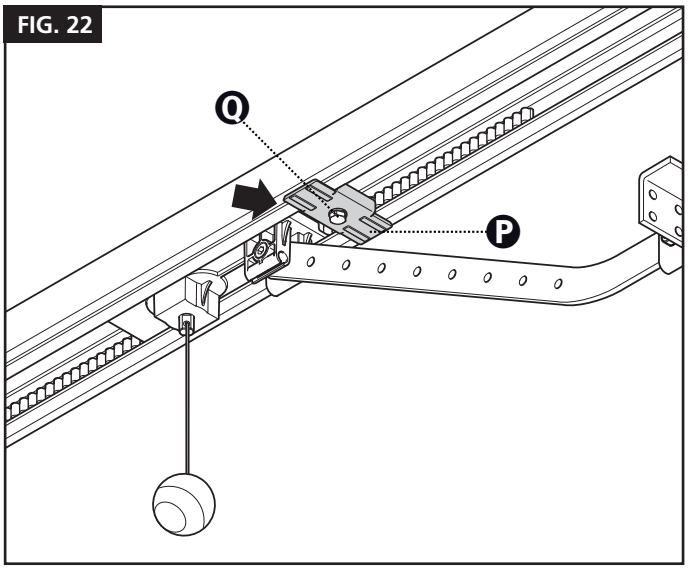
8. Slide the carriage until the leaf connecting bracket [N] (fig. 21) on the upper edge of the door is perfectly perpendicular to the guide [O].

FIG. 21



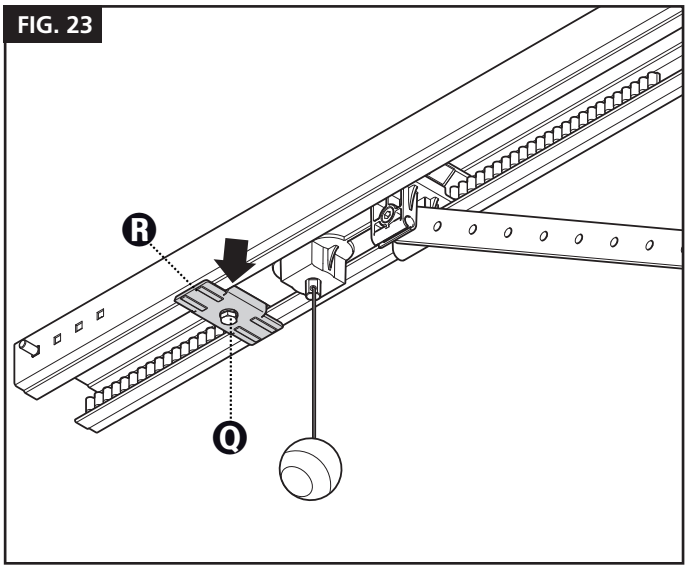
9. Then secure the leaf connecting bracket [N] with rivets or screws (fig. 21). Use screws or rivets suited to the leaf material, and ensure that they are able to withstand the maximum force required for leaf opening and closing.
10. Loosen the screws of the two mechanical stops, then move the front mechanical stop [P] in front of the carriage (fig. 22).

FIG. 22



11. Push the carriage in the closing direction and, on reaching the position, tighten the screw [Q] fully down.
12. Manually open the door to the required opening position, move the rear mechanical stop [R] next to the carriage (fig. 23) and tighten the screw [Q] fully down.
Important! - Make sure the release cord can be pulled below a height of 1.8 m

FIG. 23



⚠ **ATTENTION: for installations on overhead doors, accessory 162547 is required.**

3.3 - ELECTRICAL CONNECTIONS

1. Open the cover by loosening the screw (fig. 24) and pushing the button (fig. 25).
2. Remove the small disc [S] with a screwdriver (fig. 26).
3. Feed the cables through the hole [S] (fig. 27).
4. Refer to fig. 28 and the connection descriptions in table when making the connections. If using the flashing light aerial, remove the wire clip (connected to terminal 14 as standard) and connect the RG58 shielded cable.
5. Once you have connected up all the cables, secure them using cable clips.
6. To close the cover, push it back into place, making sure you hear a "click". Reinsert and tighten the screw to finish.

FIG. 24

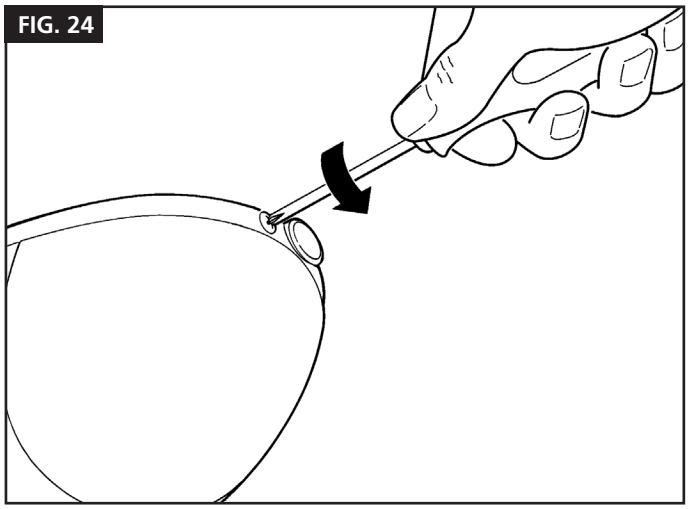


FIG. 25

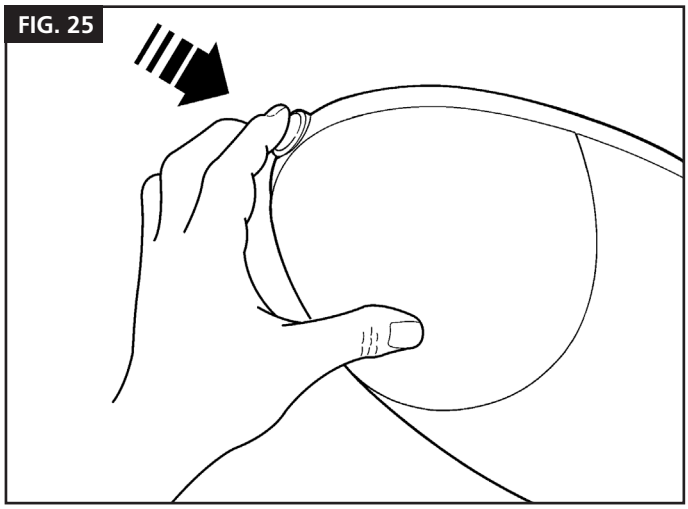


FIG. 26

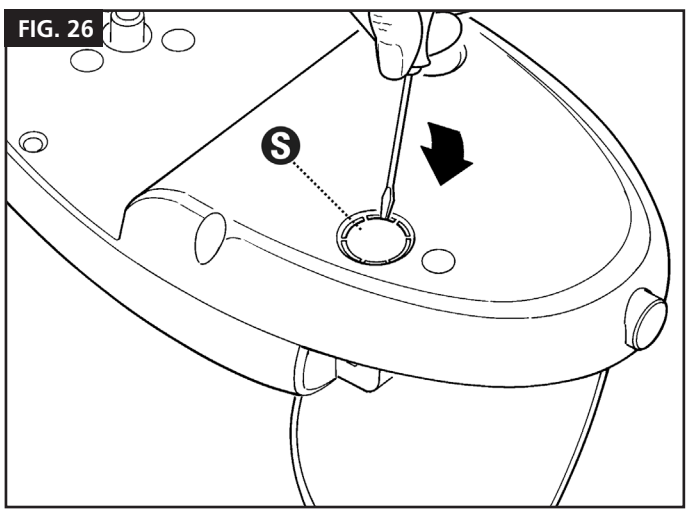
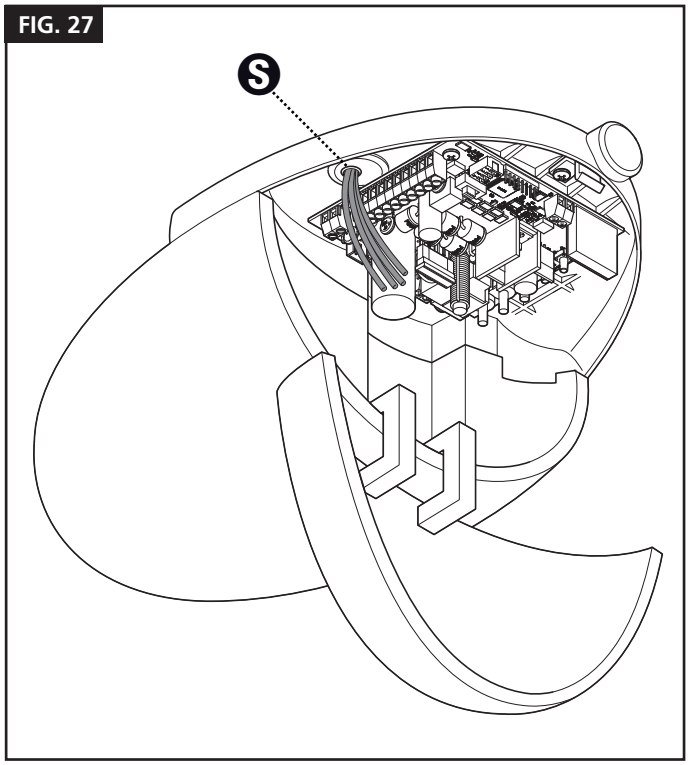
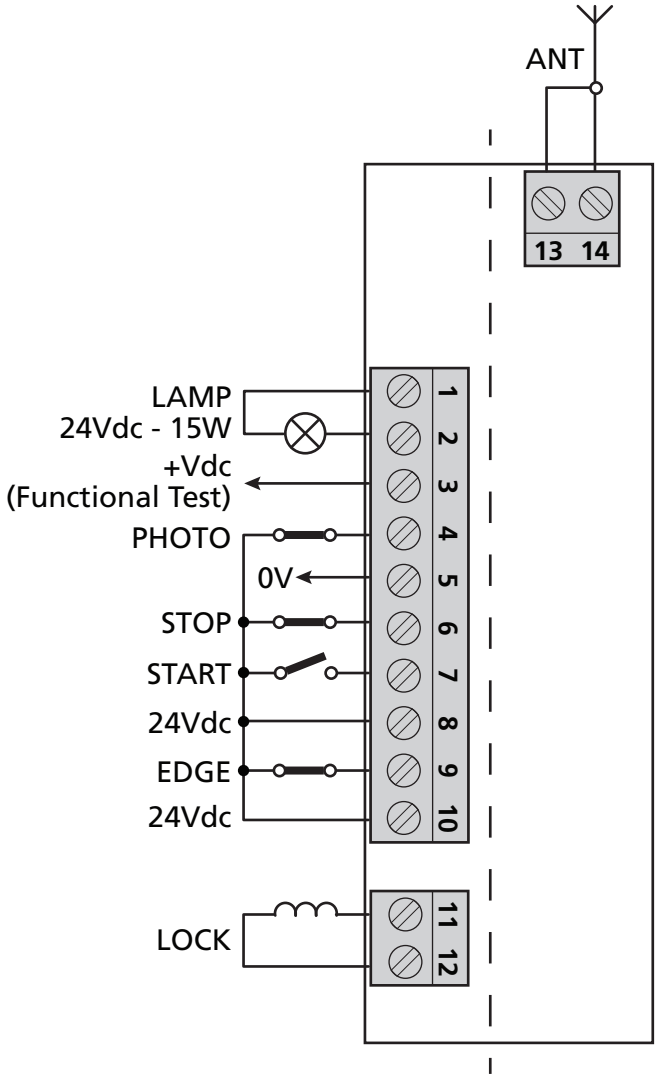


FIG. 27



EN

EN

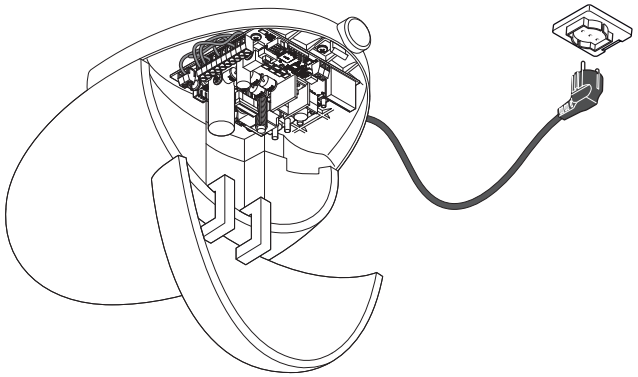


1 - 2	Flashing light: 24Vdc max. 15W
3	Phototest: 24Vdc output for safety devices testing
4	S2 Photo: Input for safety devices, normally closed contact. Function associated to dip switch **Func**
5	0 VDC: Negative terminal for accessories devices connected
6	Stop: normally closed contact
7	Start: normally open contact
8 - 10	24 VDC: Power supply 24Vdc (max. 10W) Positive terminal for inputs and accessories
9	S1 Edge: Input for safety edges, normally closed contact. Brief movement inversion in case of obstacle during closing and block of the movement during opening, movement block in case of obstacle in opening
11 - 12	Lock / AUX: Default: electric lock 12V max.15W (for courtesy light enable, see par. 13.
13 - 14	Antenna ground (13) Antenna signal (14)

NOTE: the electric lock is a non-mandatory accessory

⚠ **TIMER FUNCTION: if START contact is kept closed (for instance through a timer-controlled or bistable relay), control unit opens the door and leaves the door opened. The automation does not accept closing commands (neither automatic nor wired) until START contact is reopened.**
In this mode, dip switch 1 STEP is set to OFF and dip 2 AUTO to ON to ensure that the gate never remains locked open.

⚠ **If START contact is kept closed during the control unit starting after a blackout, the door will immediately execute the start command.**



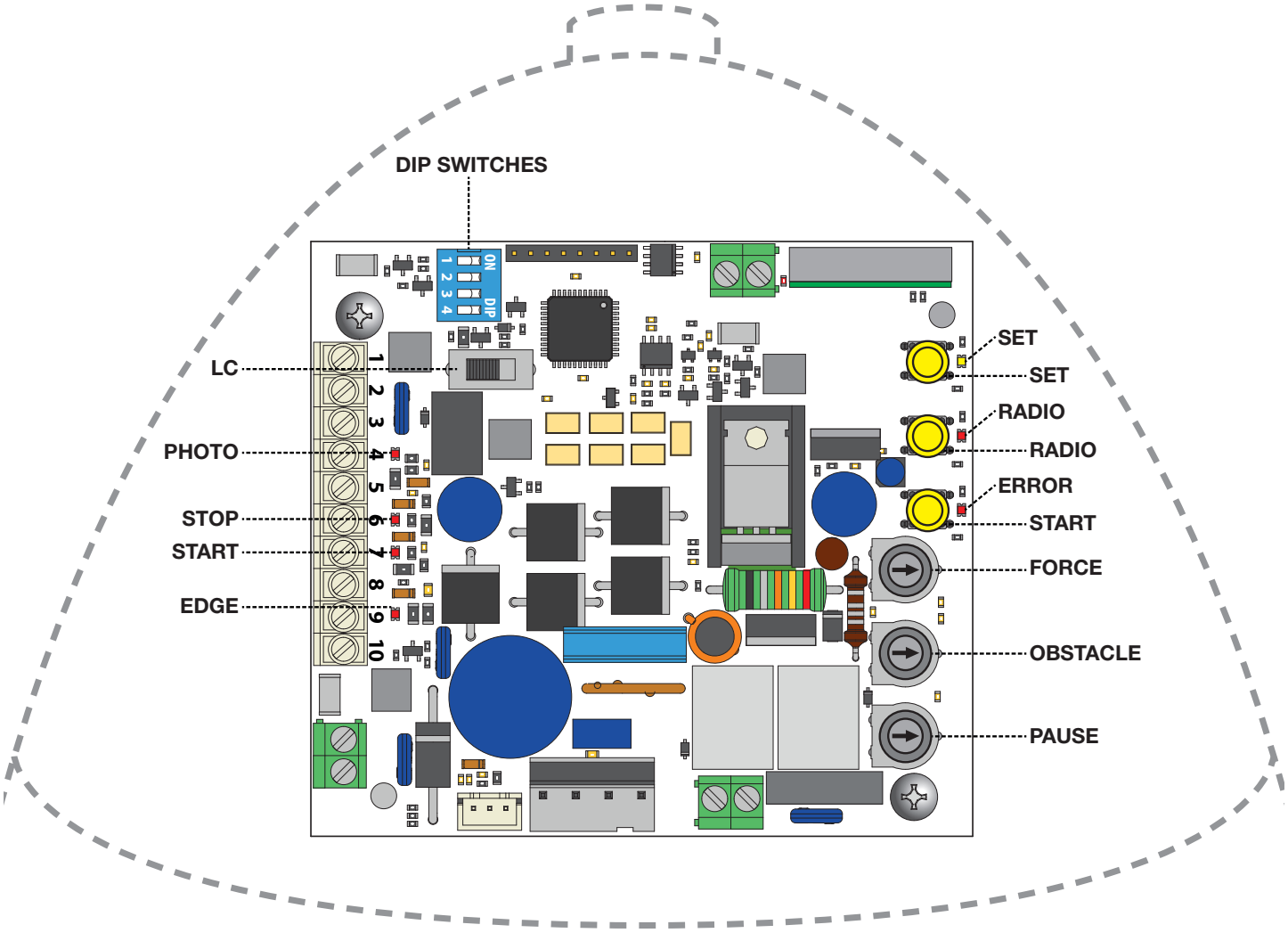
⚠ **CAUTION!**

- **Never cut or remove the cable supplied with ELEVO.**
- **If not already available, a power socket for connecting ELEVO to the mains must be made by qualified and experienced personnel in strict observance of current legislation, standards and regulations.**
  ELEVO must be connected to the supply mains by a qualified electrician.
- **To test ELEVO, just insert the plug into a power outlet, using an extension cord if necessary**

4 - MAIN FEATURES OF THE CONTROL UNIT

- Automated access command for 1 24V motor.
- Flasher control with/without integrated intermittency function (Paragraph 10.3).
- Integrated management for electric locks 24V max. 15VA (Paragraph 10.4). This output can also be used to control courtesy lights (Paragraph 13).
- Inputs for start, stop opening wired commands, (Paragraph 10.7).
- Double input for safety devices: "S2 Photo" and "S1 Edge" (Paragraph 10.5).
- Possibility of powering 24V accessories (Paragraph 10.6).
- Input for external antenna that can be used for increasing the range of the transmitters (Paragraph 10.8).
- Pause time for automatic re-closing adjustable to between 0 and 180 sec. with knob (Paragraph 4.2).
- Obstacle sensitivity adjustment with knob (Paragraph 4.2).
- Motor force adjustment with knob (Paragraph 4.2).
- Incorporated radio receiver (433.92MHz), compatible with KING rolling transmitters.
- 7 indication LEDs (Paragraph 8).
- Slow-speed opening and closing (customizable through dedicated programming).

In the next image the buttons, LEDs, trimmer and dip switches are identified inside the electronic board, which are used for the various configurations.



EN

4.1 - DIP-SWITCH ADJUSTMENT

DIP	ON	OFF	FUNCTION
1	●		Step-by-step command mode: Open / Stop / Close / Stop At every start pulse (wired or via transmitter), the control unit performs an action. Starts the motor if the automation system is stopped, and stops it if it is moving.
		●	Step-by-step with automatic closing (time set with the "Pause" knob). The control unit only accepts commands (either wired or via transmitter) for the opening phase. Starts again from zero with the set delay when the automation system is open. With the automation in the opening phase, it continues to open, and with the system in the closing phase it reopens fully.
2	●		The automatic re-closing function is activated. The control unit automatically closes the leaves after the time set through the "PAUSE" knob (see Paragraph 4.2)
		●	The automatic re-closing function is deactivated. To close the leaves, therefore, a command must be given (either wired or via transmitter).
3	●		The safety devices connected to terminal "Phototest" [3] are subject to a preventive check before starting any movement.
		●	The safety devices connected to terminal "Phototest" [3] are constantly supplied.
4	●		Belt guide
		●	Chain guide

4.2 - KNOB ADJUSTMENT

FORCE
Power: adjustment of motor power. Turning the knob clockwise increases the motor's power and speed. To validate the modification, it is necessary to programme the gate path.

OBSTACLE
Obstacle, sensitivity to obstacles: adjustment of the obstacle detection function. Turning the knob clockwise increases the drive time before obstacle detection (less sensitivity). Therefore, in systems with particularly unfavorable mechani- cal conditions, it is advisable to keep the drive time high. OBSTACLE is set at half position (50%) as factory setup.

PAUSE
Pause time before automatic gate closing. Turning the knob clockwise increases the pause time from 0 to 180 seconds.
NOTE: this knob is functional only when AUTO dip-switch is put to ON.

⚠ **Varying the "POWER" knob has no effect until the stroke is reprogrammed (par. 6).**

5 - TRASMITTER PROGRAMMING

⚠ **If, at the start of the following procedures, the "set", "radio" and "error" LEDs flash, it means that the programming protections have been activated – see Paragraph 14.1. Therefore, radio transmitters learning is not possible**

⚠ **To interrupt the following programming procedures at any time, press the RADIO button or wait 20 seconds.**

5.1 - START BUTTON PROGRAMMING

This procedure allows for programming the button of the radio control linked to the automation's start function:

1. PRESS THE **RADIO** BUTTON FOR 1 SECOND: The red "radio" LED turns on in the fixed mode (if not, consult Paragraph 14.1)
2. PRESS THE DESIRED BUTTON ON EVERY TRANSMITTER TO BE PROGRAMMED: The red "radio" LED flashes
3. PRESS THE **RADIO** BUTTON UNTIL RADIO LED TURNS OFF OR WAIT 20 SECONDS TO EXIT THE PROCEDURE: The red "radio" LED turns off

5.2 - PROGRAMMING OF THE BUTTON LINKED TO THE "LOCK/AUX" OUTPUT

This procedure allows for programming the button of the radio control linked to the "Lock/AUX" output (terminals 11-12).
To use this function, the Lock/AUX output must be set to courtesy light – see Paragraph 13.1.

1. PRESS THE **RADIO** BUTTON FOR 1 SECOND: The red "radio" LED turns on in the fixed mode
2. PRESS THE **START** BUTTON FOR 1 SECOND: The red "radio" LED remains lit in fixed mode and the red "error" LED turns on in fixed mode
3. PRESS THE DESIRED BUTTON OF ALL THE TRANSMITTERS TO BE PROGRAMMED: The red "radio" LED flashes and the red "error" LED ramins lit in fixed mode
4. PRESS THE **RADIO** BUTTON UNTIL RADIO LED TURNS OFF OR WAIT 20 SECONDS TO EXIT THE PROCEDURE

5.3 - PROGRAMMING OF THE BUTTON LINKED TO THE ON-BOARD COURTESY LIGHT

This procedure allows for programming the button of the radio control linked to the on-board led courtesy light.
To use this function, the Lock/AUX output must be set to courtesy light – see Paragraph 13.1.

1. PRESS THE **RADIO** BUTTON FOR 1 SECOND: The red "radio" LED turns on in the fixed mode
2. PRESS THE **SET** BUTTON FOR 1 SECOND: The red "radio" LED remains lit in fixed mode and the yellow "set" LED turns on in fixed mode
3. PRESS THE DESIRED BUTTON OF ALL THE TRANSMITTERS TO BE PROGRAMMED: The red "radio" LED flashes and the yellow "set" LED ramins lit in fixed mode
4. PRESS THE **RADIO** BUTTON UNTIL RADIO LED TURNS OFF OR WAIT 20 SECONDS TO EXIT THE PROCEDURE: The red "radio" LED and the yellow "set" LED turn off

5.4 - DELETING ALL MEMORISED TRANSMITTER

This operation deletes all memorized transmitters from the memory.

1. PRESS THE **RADIO** BUTTON FOR 4 SECONDS AND RELEASE WHEN RADIO LED: The red "radio" LED flashes (if not, consult Paragraph 14.1)
2. PRESS THE RADIO BUTTON AGAIN FOR 1 SECOND: The red "radio" LED flashes fast
3. MEMORY DELETION COMPLETED FLASHES: The red "radio" LED turns off

5.5 - DELETING A SINGLE TRANSMITTER

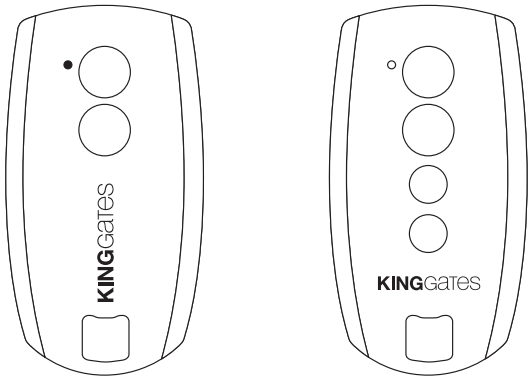
This operation deletes a single transmitter from the memory.

1. PRESS THE **RADIO** BUTTON FOR 4 SECONDS AND R ELEASE WHEN RADIO LED FLASHES: The red "radio" LED flashes (if not, consult Paragraph 14.1)
2. PRESS THE SET BUTTON FOR 1 SECOND: The red "radio" LED flashes and the yellow "set" LED turns on in fixed mode
3. PRESS A BUTTON ON THE TRANSMITTER YOU WISH TO CANCEL: The red "radio" LED flashes and the yellow "set" LED flashes
4. PRESS THE **RADIO** BUTTON UNTIL RADIO LED TURNS OFF OR WAIT 20 SECONDS TO EXIT THE PROCEDURE: The red "radio" LED and the yellow"set" LED turn off

5.6 - REMOTE (TOOLS FREE) TRANSMITTER PROGRAMMINGA

This procedure enables you to program a new transmitter without accessing the control unit, but keeping close to it.
To run the procedure you will require a previously programmed transmitter, to inherite its functions.

1. ON A PREVIOUSLY PROGRAMMED TRANSMITTER, HOLD DOWN **BUTTONS 1** AND **2** TOGETHER FOR **4 SECONDS**
2. ON THE TRANSMITTER YOU WANT TO PROGRAM, HOLD DOWN **BUTTONS 1** AND **2** TOGETHER FOR 4 SECONDS



6 - PROGRAMMING THE DOOR PATH

To start up the system, one of the following programming procedures must be carried out:

- basic programming of the automation's movement: self-learning of the manoeuvre times and slowdown start points.
- advanced programming of the automation's movement: selflearning of the manoeuvre times and manual setting of the slowdown start points.

EN

⚠ ATTENTION: before starting one of the following procedures for programming the door route, make sure that all the safety devices are correctly connected. If not connected they must be jumpered with the common one.

⚠ If, at the start of the following procedures, the "set", "radio" and "error" LEDs flash, it means that the programming protection has been activated – see Paragraph 14.1.

⚠ To interrupt the following programming sequences at any time, press the SET and RADIO buttons simultaneously.

6.1 - BASIC PROGRAMMING OF THE AUTOMATION'S MOVEMENT

Through this procedure, the control unit memorizes working times and power required for opening and closing the system.
The slowdown points are automatically set to ensure a correct arrival to the end of gate path.
For excluding slowdown, see paragraph 6.2.

1. MOVE THE DOOR TO HALF WAY POSITION
2. PRESS THE **SET** FOR 3 SECONDS: The yellow "set" LED flashes and then lights up permanently
3. THE DOOR PERFORMS A PARTIAL OPENING MOVEMENT: The yellow "set" LED stays on in the fixed mode
4. THE DOOR PERFORMS A FULL CLOSING MOVEMENT
5. THE DOOR PERFORMS A FULL OPENING MOVEMENT
6. THE DOOR PERFORMS A FULL CLOSING MOVEMENT
7. THE DOOR PERFORMS A FULL OPENING MOVEMENT WITH SLOWDOWNS: The yellow "set" LED turns off
8. THE DOOR PERFORMS A FULL CLOSING MOVEMENT WITH SLOWDOWNS
9. END OF THE PROGRAMMING PROCEDURE

⚠ If the "FORCE" knob is adjusted, the automation's movement must be reprogrammed

⚠ The red "Error" LED flashes during the automation's movement when a mechanical stress point is detected (this corresponds to increased motor effort). Adjust OBSTACLE and FORCE knobs (slightly turn them clockwise) to solve this and check gate mechanics if necessary

6.2 - ADVANCED PROGRAMMING OF THE AUTOMATION'S MOVEMENT

With this procedure, the control unit memorizes the times and power required for opening and closing the system.
Moreover, this procedure allows for setting the start point of slowdowns or their deletion

1. PUT THE DOOR TO HALF WAY POSITION
2. PRESS THE **SET** BUTTON FOR 2 SECOND: The yellow "set" LED flashes (if not, consult Paragraph 14.1)
3. PRESS THE **RADIO** BUTTON FOR 1 SECOND: The yellow "set" LED turns on in the fixed mode
4. THE DOOR PARTIALLY OPENS: The yellow "set" LED stays on
5. THE DOOR MOVES TO FULL CLOSING POSITION: The yellow "set" LED flashes
6. PRESS THE **SET** BUTTON OR A BUTTON OF A PAIRED **TRANSMITTER** OR CLOSE **START WIRED CONTACT**: The yellow "set" LED stays on
7. THE DOOR PERFORMS THE OPENING OVEMENT
8. DURING MOVEMENT PRESS THE **SET** BUTTON OR A BUTTON OF A PAIRED **TRANSMITTER** OR CLOSE **START WIRED CONTACT**, TO SET THE SLOWDOWN START POINT (*). FOR NOT HAVE SLOWDOWN, WAIT UNTIL THE MOVEMENT HAS BEEN COMPLETED
9. THE DOOR COMPLETES THE OPENING PHASE
10. PRESS THE **SET** BUTTON OR A BUTTON OF A PAIRED **TRANSMITTER** OR CLOSE **START WIRED CONTACT**
11. THE DOOR PERFORMS A FULL CLOSING MOVEMENT
12. DURING MOVEMENT: PRESS THE **SET** BUTTON OR A BUTTON OF A PAIRED **TRANSMITTER** OR CLOSE **START WIRED CONTACT** TO SET THE SLOWDOWN START POINT (*). FOR NOT HAVE SLOWDOWN, WAIT UNTIL THE MOVEMENT HAS BEEN COMPLETED
13. THE DOOR COMPLETES THE CLOSING PHASE: The yellow "set" LED turns off
14. END OF THE PROGRAMMING PROCEDURE: The LEDs return to the normal operation configuration

(*) Minimum slowdown time must be 3 seconds.

⚠ If the "FORCE" knob is adjusted, the automation's movement must be reprogrammed.

**⚠ The red "Error" LED flashes during the automation's movement when a mechanical stress point is detected (this corresponds to increased motor effort).
Adjust OBSTACLE Adjust OBSTACLE and FORCE knobs (slightly turn them clockwise) to solve this and check gate mechanics if necessary.**

7 - TESTING AND COMMISSIONING

Once the programming setup has been completed, verify that:

- the motors turn off after a few seconds once the opening or closing phases end (also "error" LED turns off);
- the control unit responds to the connected wired commands: "START" (terminal 7), and "STOP" (terminal 6);
- all programmed radio transmitters are operational;
- the safety devices connected to "S2 Photo" (terminal 4) intervene while the door closes and prevent the open door from closing;
- the safety devices connected to "S1 Edge" (terminal 9) intervene while the door opens with a stop and while it closes with a brief inversion of movement.

8 - LED INDICATION

With the control unit powered up (if control unit protection is not activated) the yellow "Set" led flashes briefly and, if everything is correctly hooked up, the red "S1 Edge","Stop" and "S2 Photo" LEDs turn on to indicate that the three safety contacts are closed circuits.
The yellow "Set" LED is exclusively reserved for programming.

8.1 - INPUT STATUS INDICATION LEDS

RED S1 EDGE LED:

- ON in the fixed mode if the S1 Edge contact (terminals 9-10) is closed
- OFF if the S1 Edge contact (terminals 9-10) is opened

RED START LED:

- ON in fixed mode if the Start contact (terminals 7-8) is closed
- OFF if the Start contact (terminals 7-8) is opened

RED STOP LED:

- ON in fixed mode if the Stop contact (terminals 6-8) is closed
- OFF if the Stop contact (terminals 6-8) is opened

RED S2 PHOTO LED:

- ON in fixed mode if the S2 Photo contact (terminals 4-8) is closed
- OFF if the S2 Photo contact (terminals 4-8) is opened

YELLOW SET LED:

- is on in fixed mode or flashes when the control unit is in a programming menu
- is off when the control unit is in out of a programming menu

RED RADIO LED:

- flashes when a command is received through KING transmitter
- is on in fixed mode when the control unit is in a radio programming menu
- is off when the control unit is in standby mode

RED ERROR LED:

- see paragraph 8.2

RED ERROR LED, RED RADIO LED AND YELLOW SET LED:

- If, when attempting to enter any programming scheme, the "Set", "Radio" and "Error" LEDs flash fast three times, it means that the "control unit protection" is activated. See Paragraph 14.1 for solving the problem.

8.2 - LED ERROR

RED "ERROR" LED:
The red "error" LED has two functions:

- During automation's movement, the LED flashes when a mechanical stress point is detected (this corresponds to increased motor effort). Adjust FORCE and OBS knobs (slightly turn them clockwise) to solve this and check gate mechanics if necessary.
  Attention: a minimum flash of this LED during the door movement can be considered as normal.
- In standby mode, the LEDs shows the current error type with a series of regular flashes according to the following scheme:

N. flashes	Error description
1	On-board memory fault
2	Photo-test of safety devices failed. See Paragraph 4.1 for solving the problem
3	Automation's movement programming required. See Paragraph 6
4	Input "S1 Edge" set as a resistive edge and check failed. See Paragraph 13.2 for solving the problem
5	Power limit threshold
6	Obstacle detection due to encoder
7	Obstacle detection due to current
9 - 13	Electronic protections activated
14	Supply voltage too low
15	Temperature too high

9 - RESET PROCEDURE

Reset procedure deletes door travel parameters (par. 6) and all advanced functions (par. 11). It can be performed in case of programming mistakes and it brings the control board to factory settings.

EN

⚠ **This reset doesn't affect memorized radio transmitters (see par. 5 for radio trasmitters management).**

1. PRESS THE START BUTTON FOR 8 SECOND: All LED flash
2. RELEASE START BUTTON: All LED continue to flash
3. PRESS THE START BUTTON FOR 3 SECOND: All LED light up in series
4. RESET IS NOW COMPLETED: The red "ERROR" LED lights flashes 3 times continuosly
5. A NEW PROGRAMMING OF THE AUTOMATION'S MOVEMENTS IS REQUIRED

10 - DEVICES CONNECTABLE TO THE CONTROL UNIT

The control unit is prearranged for interfacing with different devices dedicated to system control, system safety and other additional functions. Below is a list of their connections and corresponding functions.

10.1 - LAMPEGGIANTE

TERMINALS: 1-2
The warning light is an accessory used for signaling any movement of the gate leaf.
Connected lamps: 24V 15W maximum power.

10.2 - AUX CONTACT

TERMINALS: 11-12.
Default setting: 12V electric lock operation.

The AUX can be set to electric lock, magnetic lock, courtesy light (monostable or bistable). Also, voltage output is customizable to 24V.

To change the AUX setup, refer to the advanced programming functions of Paragraph 13:

- Selection of AUX output type (Paragraph 13.1) = set as lock or courtesy light;
- Selection of AUX operating mode (Paragraph 13.2) = allows for customizing the contact's operation;
- Selection of AUX contact voltage (Paragraph 13.3) = allows for selecting the AUX contact voltage (12V or 24V).

10.3 - SAFETY DEVICES

TERMINALS: 4-9-10.
Control unit has two safety inputs available for voltage free (dry contact) connection(s).

10.4 - "S2 PHOTO" CLOSING OR OPENING/ CLOSING PHASE SAFETY DEVICES

TERMINALS 4-8
Allow connection of safety devices active during closing and opening phase. This input is normally closed (NC).
For infra-red photocells and safety edges with micro-switch contact.
The factory wire bridge connected to S2 Photo must be removed when using this input.

⚠ **When multiple devices are connected on this contact, they must be series connected.**

10.5 - "S1 EDGE" OPENING/CLOSING PHASE SAFETY DEVICES

TERMINALS 9-10
It is possible to connect devices (e.g. photocells or edges) with normally closed (NC) contact or 8K2 resistive edges to the "S1 Edge" input.
The factory wire bridge connected to PHO2 must be removed when using this input.
These devices intervene while the door is moving, in particular:

- with the closed door they lock opening commands.
- with the opened door they lock closing commands.
- during the closing phase they command a brief inversion
- during the opening phase they block the movement

10.6 - 24VDC ACCESSORIES' POWER SUPPLY

TERMINALS: 8-5, 10-5
Nominal voltage 24V , max. 10W, output for powering external accessories as photocells, radio receivers, etc.
Real voltage output can be greater than nominal value, check the compatibility of external accessories.

10.7 - WIRED COMMANDS

START CONTACT
The "START" input (terminals 7-8) is a normally open gate activation command by wire.
The activation method is set up by dip switches 1 and 2 - see Paragraph 4.1.
This input is a voltage free (dry contact) only. Connecting power to this input will void warranty.

⚠ **TIMER FUNCTION: if START contact is kept closed (for instance through a timer-controlled or bistable relay), control unit opens the gate and leaves the gate opened. The automation does not accept closing commands (neither automatic nor wired) until START contact is reopened. In this mode, dip switch 1 STEP is set to OFF and dip 2 AUTO to ON to ensure that the gate never remains locked open.**

⚠ **If multiple START contacts are connected, connect the contacts in parallel.**

⚠ **If START contact is kept closed during the control unit starting after a blackout, the gate will immediately execute the start command.**

STOP CONTACT
The "STOP" input (terminals 6-8) is for immediately stopping and locking any movement of the gate.
This input is a normally closed and voltage free (dry contact) only.

⚠ **Connecting power to this input will void warranty.**

To restore operation this contact must be closed.

10.8 - ANTENNA

TERMINALS: 13-14.
Antenna terminal for transmitter signal reception. A wire is factory connected to this terminal.
For extending the reception range, an external antenna can be connected.

⚠ **If an external antenna is connected, the series connected wire must be disconnected.**

11 - ADVANCED PROGRAMMING

The control unit has additional special features not required for most of standard installations. All descriptions are reported here below.

EN

12 - BACKJUMP ADJUSTMENT

This procedure allows for adjusting or eliminating the backjump. It consists in inverting the door movement at the end of the path to perform belt recovery, facilitate unlocking and safeguard the mechanical system. On certain installations this is unnecessary, therefore this value can be adjusted.

DEFAULT = value 2, equal to 500ms

⚠ **Prior to proceeding with this progra mming procedure, first verify whether either the "basic path programming" or the "advanced path programming" have been completed.**

1. PUT THE DOOR IN THE CLOSED POSITION
2. PRESS THE **START** BUTTON FOR 3 SECOND: All the LEDs turn off (if not, consult Paragraph 14.1)
3. PRESS THE **SET** BUTTON FOR 1 SECOND: The yellow "set" LED turns on in the fixed mode
4. PRESS THE **SET** BUTTON FOR 1 SECOND: The yellow "set" LED flashes then turns on in the fixed mode and the red "error" LED indicates the backjump* level
5. EVERY TIME THE **SET** BUTTON IS PRESSED, THE VALUE CHANGES FROM 1 TO 6 STARTING FROM THE CURRENTLY SET VALUE: The yellow "set" LED remains lit in the fixed mode and the gred "error" LED indicates the backjump* level
6. To store the chosen level, press PRESS THE **RADIO** BUTTON FOR 2 SECONDS: The yellow "set" LED remains lit in the fixed mode and the red "error" LED flashes fast
7. PRESS THE SET AND RADIO BUTTONS SIMULTANEOUSLY OR WAIT 10 SECONDS TO EXIT THE PROCEDURE: The LEDs return to the normal operation configuration

* The backjump value is indicated by the number of flashes of the series based on the set value.
Backjump levels: 0 / 500mS / 700mS / 1Sec / 1,5 Sec / 2Sec.
When the series consists of one flash, the backjump value is zero (no inversion of movement at end-of-path), when there are 6 flashes, the backjump is set to the maximum value.
Clearly, the other series indicate growing intermediate values from 1 to 6.
The backjump value can be known at any time after the SET button is pressed the first time, by counting the number of flashes of the green "photo" LED.

⚠ **If the backjump value is set too high, some undesired clearance may remain between the door and the mechanical stop.**

13 - AUX OUTPUT PROGRAMMING

These programming sequences are not essential to the system's operation, though they allow for setting the type (lock or courtesy light), of the devices connected to the AUX output.
To interrupt the following programming sequences at any time, press the **SET** and **RADIO** buttons simultaneously or wait 10 seconds.

AUX USED AS COURTESY LIGHT
If the AUX output is used as courtesy light for controlling the lamps, a relay must be connected.
The light can be activated through a dedicated transmitter button (to be programmed as indicated in Paragraph 5.2).

ACTIVATION OF THE LIGHT THROUGH A DEDICATED TRANSMITTER BUTTON AND TIMER-BASED SWITCHING OFF:

- connect a timer relay and set the desired switch-on time for the light;
- set the AUX output on courtesy light (see Paragraph 13.1);
- program the desired transmitter button for the light command (see Paragraph 5.2).

The light will switch on with the programmed transmitter and switch off after the time set on the relay elapses.

SWITCHING ON/OFF OF THE LIGHT THROUGH A DEDICATED TRANSMITTER BUTTON:

- connect a monostable relay;
- set the AUX output on courtesy light (see Paragraph 13.1);
- program the desired transmitter button for the light command (see Paragraph 5.2).

The light switches on/off whenever the programmed transmitter is pressed.

ACTIVATION OF THE COURTESY LIGHT LINKED TO THE WIRED OR TRANSMITTER START BUTTON:

- connect a timer relay and set the desired switch-on time for the light;
- set the AUX output as electric lock (see Paragraph 13.1);
- if desired, program the transmitter button for the START command (see Paragraph 5.2).

At every wired or transmitter start command, the light will switch on for the set time.

13.1 - SELECTION OF DEVICE CONNECTED TO "LOCK/AUX" OUTPUT

Default = electric lock

This procedure allows for setting the "AUX" output for the operation as:

ELECTRIC LOCK: the control unit closes the AUX contact (terminals 11-12) whenever a command is received.
By default, the contact is closed for 3 seconds (electric lock mode).

COURTESY LIGHT: the control unit closes the AUX contact (terminal 11-12) whenever a radio command is received (the AUX button must be programmed – see Paragraph 5.2). By default, the command is monostable.

⚠ **To control the AUX output when it has been set as a courtesy light output, you need to register a transmitter by following the procedure in paragraph 5.2 and connect a suitable relay.**

1. PRESS **START** BUTTON FOR 3 SECONDS: All the LEDs turn off (if not, consult Paragraph 14.1)
2. PRESS THE **RADIO** BUTTON FOR 1 SECOND
   - If the yellow "Set" LED is on AUX = Electric lock (if the setting is correct, go to Point 4; if not, proceed to Point 3).

   OR
   - If the red "Error" LED is on in fixed mode AUX = Courtesy light (if the setting is correct, go to Point 4; if not, proceed to Point 3).
3. PRESS THE **RADIO** BUTTON FOR 1 SECOND: the red "radio" LED remains on in fixed mode and the "Error" and "Set" LEDs light up according to the selected function
4. PRESS THE **SET** AND **RADIO** BUTTONS SIMULTANEOUSLY OR WAIT 10 SECONDS TO EXIT THE PROCEDURE: The LEDs return to the normal operation configuration

13.2 - SELECTION OF THE TYPE OF DEVICES CONNECTED TO "S1 EDGE"

Default = "S1 Edge" set for devices with normally closed contact (terminal 9)

This procedure allows for setting the "S1 Edge" output for managing 8.2kOhm resistive edges.
The control unit constantly verifies the integrity of the edge by measuring the resistance between the two dedicated terminals.

1. PRESS START BUTTON FOR 3 SECONDS: All the LEDs turn off (if not, consult Paragraph 14.1)
2. PRESS THE **START** BUTTON FOR 1 SECOND:
   - If the yellow "Set" LED is on "S1 Edge" = resistive edge (if the setting is correct, go to Point 4; if not, pro- ceed to Point 3)

   OR
   - If the yellow "Set" LED is off "S1 Edge" = device with normally closed (NC) con- tact (if the setting is correct, go to Point 4; if not, proceed to Point 3)
3. PRESS THE **START** BUTTON FOR 1 SECOND: the red "error" LED lights up in fixed mode and the "Set" LED turns on / off according to the selected function
4. PRESS THE **SET** AND **RADIO** BUTTONS SIMULTANEOUSLY OR WAIT 10 SECONDS TO EXIT THE PROCEDURE: The LEDs return to the normal operation configuration

⚠ **In order to carry out the check on the safety devices, the connected edges must be of the resistive type with 8.2 kOhm.**

EN

14 - OTHER FUNCTIONS

To interrupt the following programming sequences at any time, press the SET and RADIO buttons simultaneously or wait 10 seconds.

14.1 - ACTIVATING/DEACTIVATING THE CONTROL UNIT PROTECTION DEVICE

Default = control unit protection device not active

This programming sequence allows for locking all control unit programming sequences and the settings adjustable through the trimmer.
To perform a new programming sequence or make a dip-switch/trimmer modification effective, the protection must be deactivated.

1. PRESS **START** BUTTON FOR 3 SECONDS: All the LEDs turn off
2. PRESS BOTH BUTTONS **START** AND **RADIO**, FOR 2 SECONDS
   - If the yellow led "Set" and the red led "Radio" are ON: central unit lock = enabled (if it is the correct setting, go to step 4, otherwise proceed to step 3)

   OR
   - If the yellow led "Set" and the red led "Radio" are OFF: central unit lock = disabled (if it is the correct setting, go to step 4, otherwise proceed to step 3)
3. PRESS BOTH BUTTONS **START** AND **RADIO**, FOR 2 SECONDS: the "set" and "radio" LEDs turn on / off according to the selected function
4. PRESS THE **SET** AND **RADIO** BUTTONS SIMULTANEOUSLY OR WAIT 10 SECONDS TO EXIT THE PROCEDURE: The LEDs return to the normal operation configuration

14.2 - ENABLE STOP ON PHOTO INPUT

DEFAULT = the automation stops in both opening and closing when the photocell intervenes, reopening the door when the photocell is released

1. Press the START button for 3 seconds: all the LEDs go off (if not, see paragraph 14.1)
2. Press the SET key for 1 second, the red "radio" LED indicates the function of input S2 (FOT1)
   - LED off: the automation stops in both opening and closing when the photocell is activated, reopening the door when the photocell is released
   - LED on: when the photocell intervenes during closing, the automation reopens immediately
3. Press the RADIO button for 1 second to change the currently set function

15 - F.A.Q

	Problems	Symptoms / Causes	Solution
9a	The control unit LEDs are turned off	No power to the control unit	Check for mains power
		The fuses blown. You must disconnect power before touching fuses. Check for no short-circuits or problems before replacing fuse with same value ones	Replace the fuses. If the fuses blow up again, check for short circuits or damages of power circuits, cables, wires, accessories, transformer and control unit
9b	The control unit cannot enter to programming mode	When the SET button is pressed and all the indication LEDs flash the control unit is in protection mode	Deactivate the protection – see Paragraph 14.1
9c	The control unit completes the programming setup, but does not respond to commands in the standard operating mode	Problem with safety and/or stop circuits if Photo and/or Stop red LEDs are off. Those LEDs must be lit red unless the door will not work	Check that the "S2 Photo", "S1 Edge" and "Stop" circuits are closed
		Photo-test of safety devices failed. After a command is pressed for a few seconds, the red "Error" LED turns on	Deactivate the photo-test – see Paragraph 4.1
9d	Door is moving but not all the way to fully close and/or open	Obstacle detection problems. The control unit detects power draw peaks during the manoeuvre and goes into obstacle mode	1. Disengage the door from the motor(s) with manual release; check door to move free all the way. If not, please fix. 2. Turn the "OBS" knob slightly clockwise (see Paragraph 4.2) 2. make sure that control unit stops powering the motor(s) at the end of the travel. 3. If not sufficient, turn the "POWER" knob slightly clock- wise and reprogram automation's movement. 4. Avoid/reduce slowdown travel phase (see Paragraph 6.2)
		Intervention of the safety devices. Check that the red "S2 Photo", red "S1 Edge" and "Stop" LEDs remain lit throughout the entire manoeuvre. If there are multiple photocell pairs, these may signal false obstacles.	Apply the bridges to "S2 Photo", "S1 Edge" and "Stop" to check if the problem is from the control unit or other circuits connected to these terminals
9e	The radio transmitter does not functioning	Check that LED on the transmitter is flashing, if not replace the transmitter's battery	Check that radio LED of the control unit flashes while pressing a button on the transmitter. If yes, try to reprogram the radio transmitter
9f	The transmitter has little range	Note: transmitter's range varies in relation to the environmental conditions	Replace the transmitter's battery. Connect an external antenna (see Paragraph 10.8) if not sufficient
9g	The door does not slowing down	Repeating the automation's movement programming is required	1. Repeat the automation's movement programming (see Paragraph 6.1) 2. If not sufficient, do the advanced programming of the automation's movement (Paragraph 6.2) and set a longer slowdown area
9h	The control unit does not make the dip-switch or knobs adjustments	The control unit protection (lock mode) is active	Deactivate the control unit lock. See Paragraph 14.1
		No effect with "POWER" knob or dipswitches adjustment	To make "POWER" knob and dip-switches changes effective, it is necessary to repeat the automation's movement programming. If not possible, deactivate the cotrol unit lock. See Paragraph 14.1.