OPTIMO

OP2_24_UNI

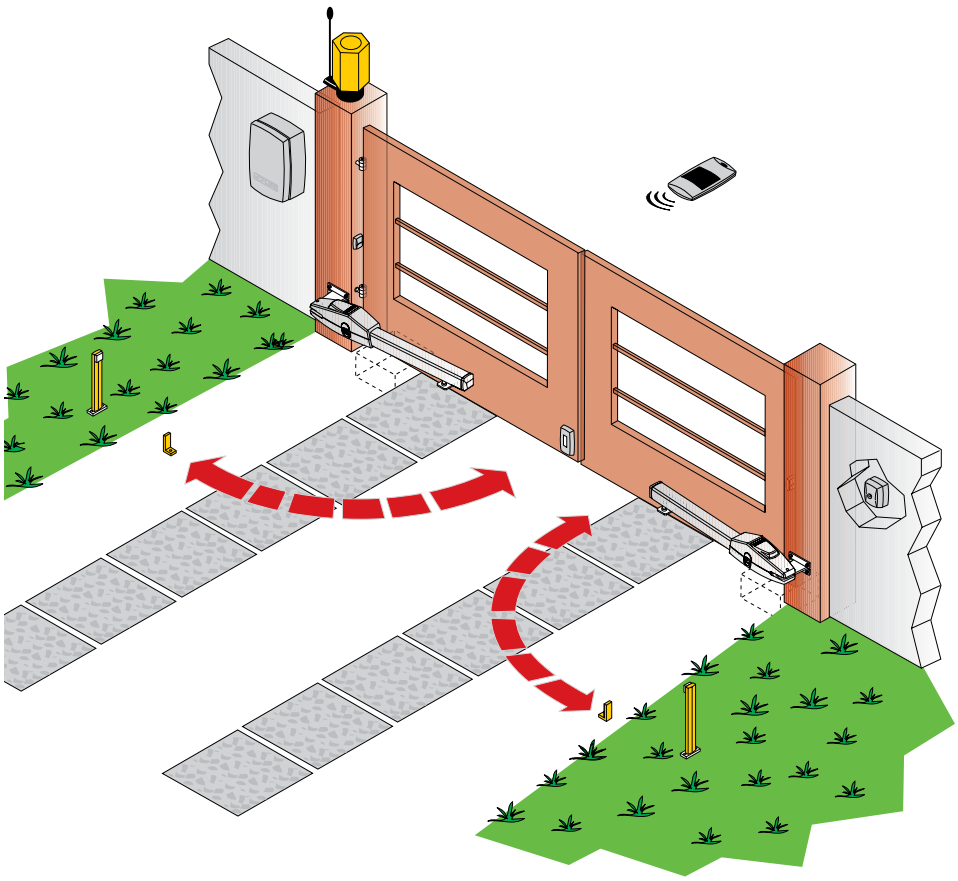
ELECTROMECHANICAL LINEAR OPERATOR FOR LEAF GATE

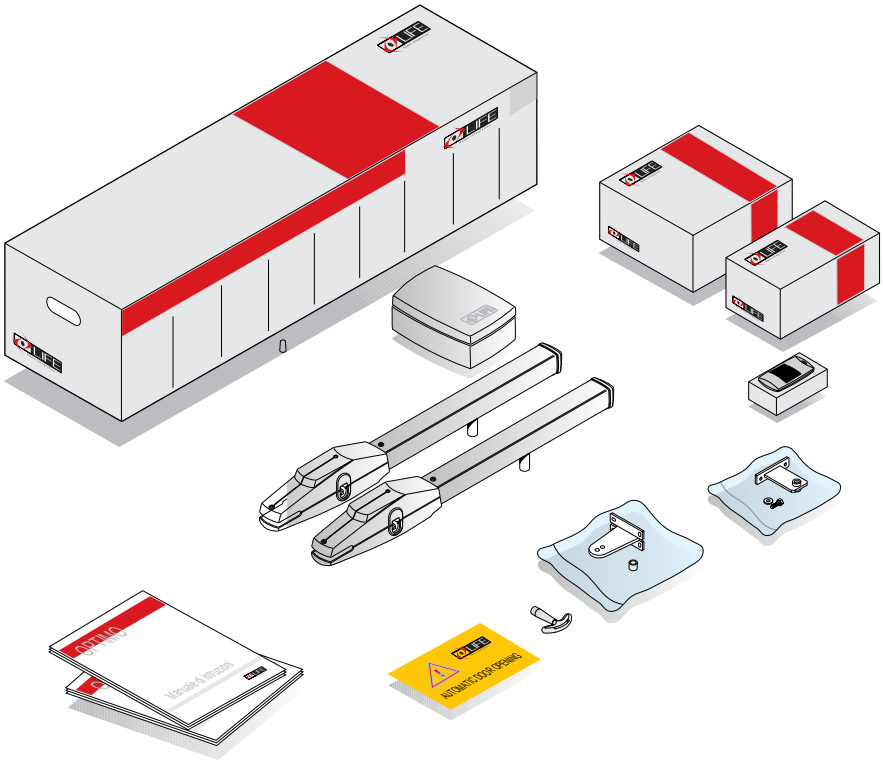
INSTRUCTIONS AND WARNING FOR INSTALLATION, USE & MAINTENANCE

SAMT® Garage & Gate Automation

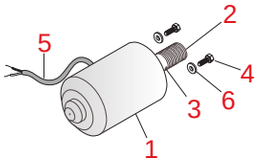
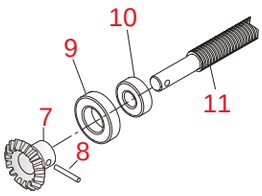
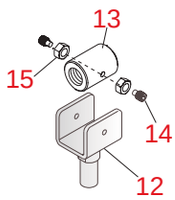
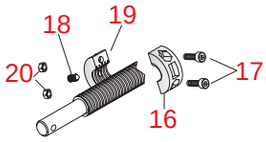
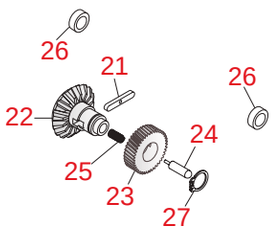
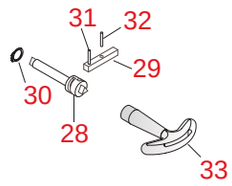
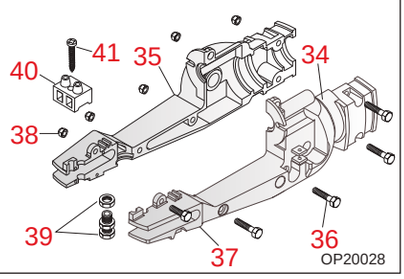
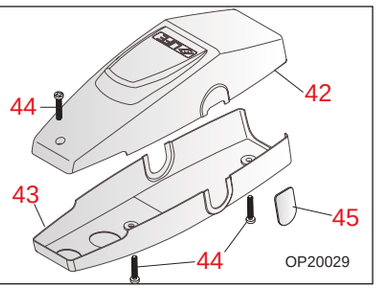
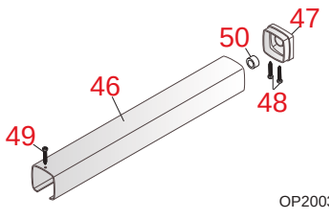
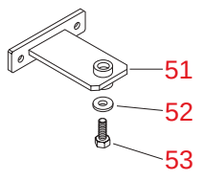
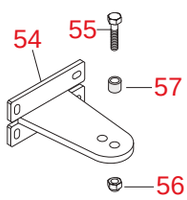
LIFE® home integration

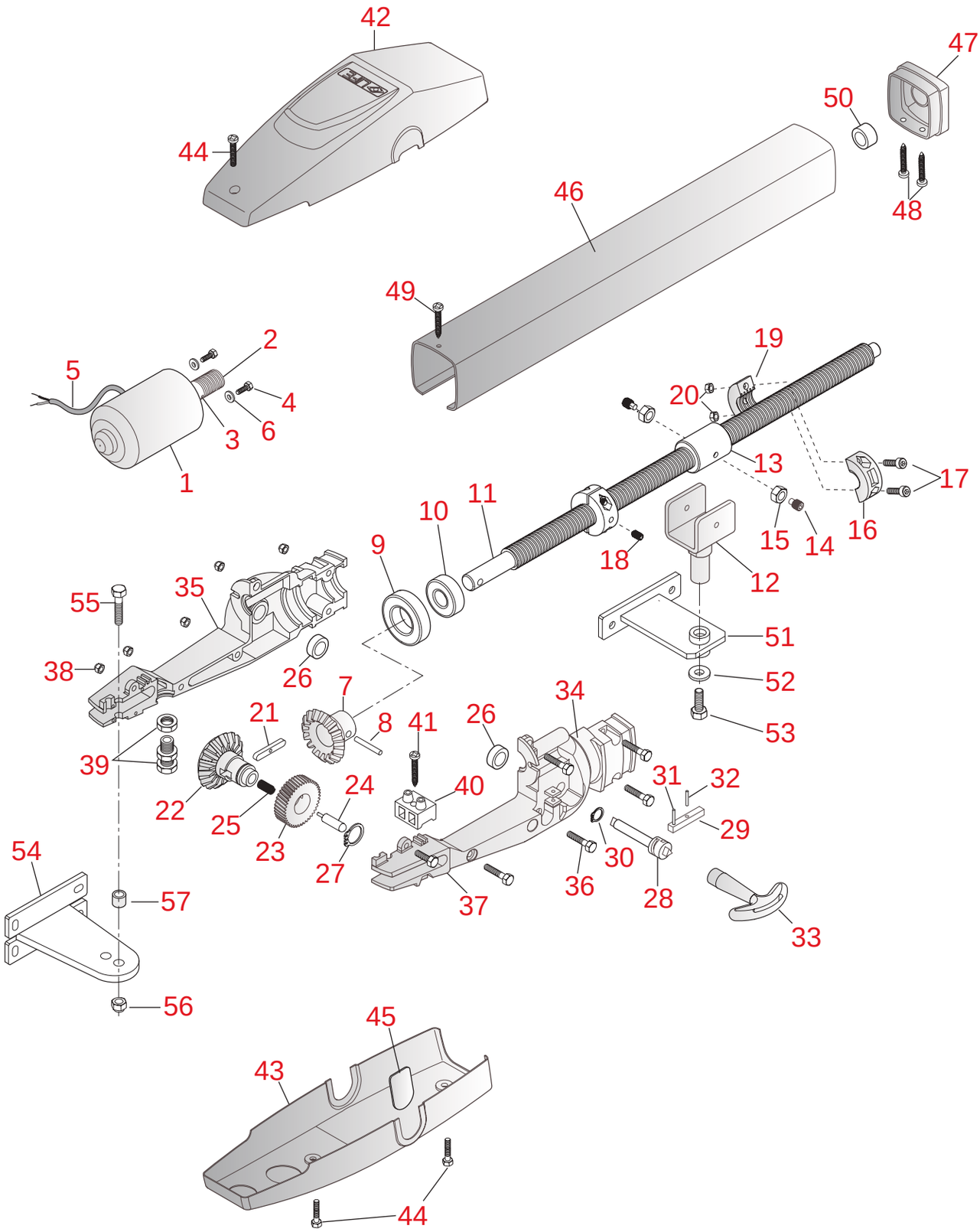
STANDARD INSTALLATION





SPECIFIC DESCRIPTION OP2

1 **5RI17000**	1 2 3 4 5 6	 OP20022
2 **5RI17100**	7 8 9 10 11	 OP20023
3 **5RI17200**	12 13 14 15	 OP20024
4 **5RI17300**	16 17 18 19 20	 OP20025
5 **5RI17400**	21 22 23 24 25 26 27	 OP20026
6 **5RI17500**	28 29 30 31 32 33	 OP20027
7 **5RI17600**	34 35 36 37 38 39 40 41	 OP20028
8 **5RI17700**	42 43 44 45	 OP20029
9 **5RI17800**	46 47 48 49 50	 OP20030
10 **5RI17900**	51 52 53	 OP20031
11 **5RI18000**	54 55 56 57	 OP20032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TECHNICAL DATA

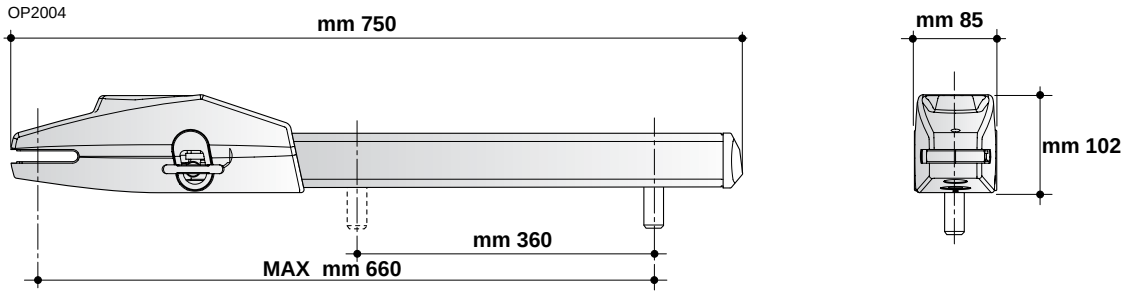
OP2			
Irreversibile mechanical 24V operator for swinging gates, with mechanical stops		**OP224 UNI**	**OP224 INI**
Main power supply	V	230 Vac 50 Hz	
LIFE electronic unit power supply	V	24 Vdc	
LIFE electronic board: GE UNI 24R		Yes (1 motor)	Yes (2 motors)
Max power	W	40	40+40
Max input	A	3	3+3
Input current (230V)		1,1	1,5
Push/Thrust	N	1500	
Lubrification	Type	Permanent grease	
Limit switches		2 (mechanical)	
Reduction ratio		1/672	
Max. rod run	mm	350	
Operating temperature	°C	-20 to +70	
Protection level	IP	44	
90° opening time	S	18	
Intermittence	%	80	
Nominal time work	min.	20	
Motor isolation class		D	
Battery recharge time*	h	48	
Operator weight	kg	3.7	
Dimensions	mm	90x755x110	
Use in acid, salt or potential esplosive atmosphere		no	
Max. leaf span & weight		2 m - 200 kg	

* for 2 Ah battery (optional & installed within the control board).

INSTALLATION

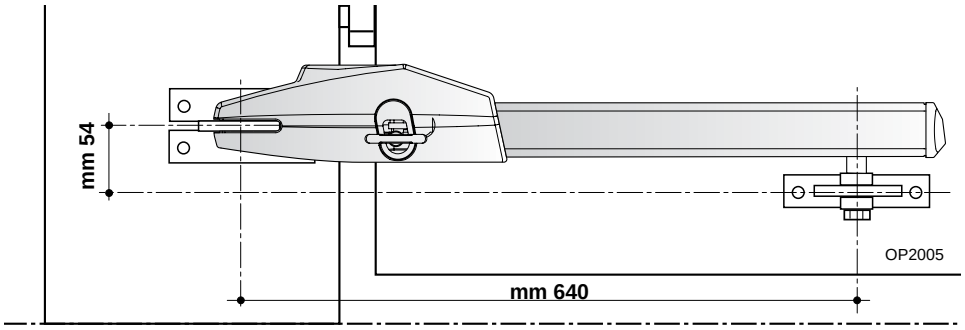
Use limits

The type and height of the gate, the shape of the leaves and weather conditions are the use limits; they have to be taken into consideration during installation. Figures shown on table 3 are approximative.



Tab. 2: use limits model OP2

Max leaf span (m)	Max leaf weight (Kg)
1,50	300
2,00	200



Standard Installation

A) TWO-LEAF SYSTEM

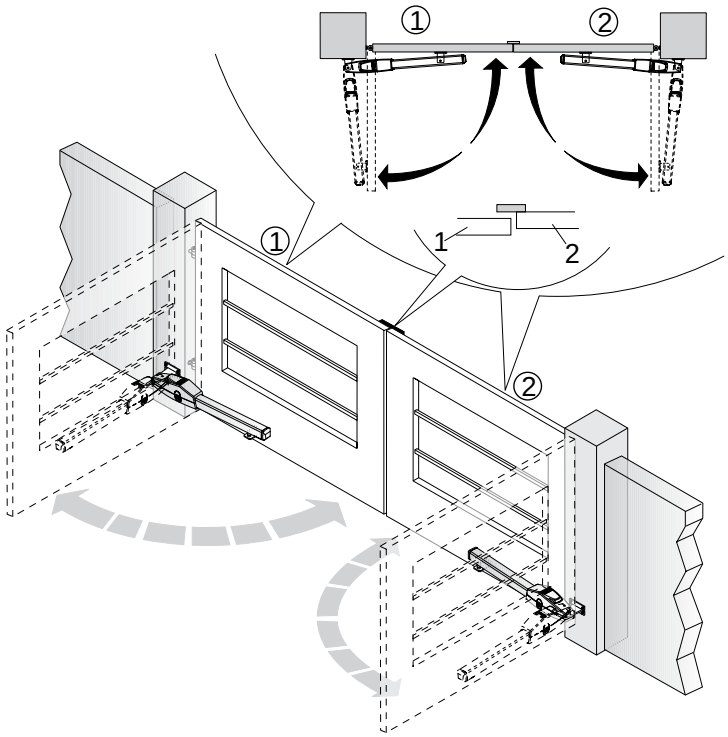
The definition of leaf 1 and leaf 2 of the gate is essential for automation operation.

Leaf 1: is the first to open (1) when the gate is closed and the second to move when the gate is open; it finishes its closure travel after leaf 2.

Leaf 2: is the second to open (2) when the gate is closed and the first to move when the leaves are open; it finishes its closure travel before leaf 1.

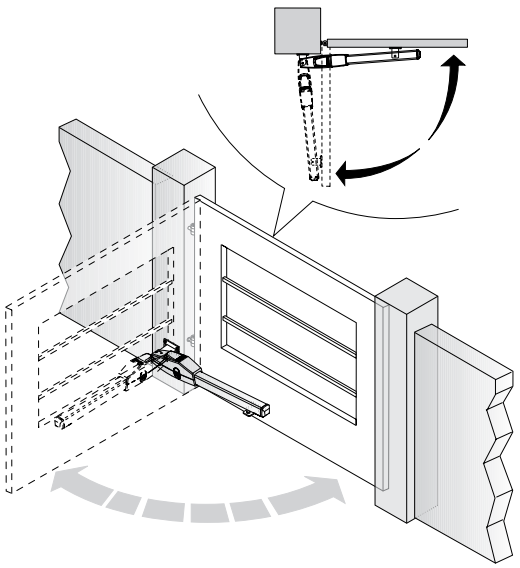
B) ONE-LEAF SYSTEM

Leaf 1: the gate's only leaf.



2) **ONE LEAF SYSTEM**

Leaf 1: only leaf of the gate..



Check that the distance “C” on the gate support structure is no greater than the value given in the table below. If the distance is higher than this value, it is necessary to intervene by making a niche in the structure to obtain the indicated value. This is to avoid the linear operator colliding with the edge of the structure during closure. The niche must be made in the area in which the linear operator is to be installed and it must have a height such as to allow operator passage.

fig. OP2005 shows the set up measurements for the operator installation:
Table.3 shows **A** and **B** values recommended for a 90° leaf opening (angle α)

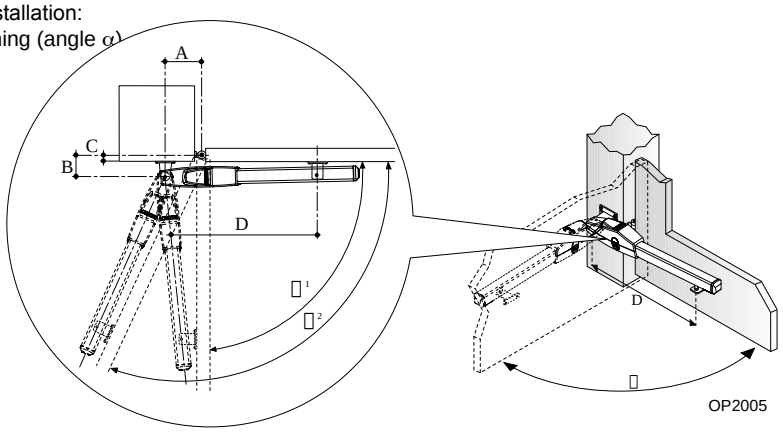


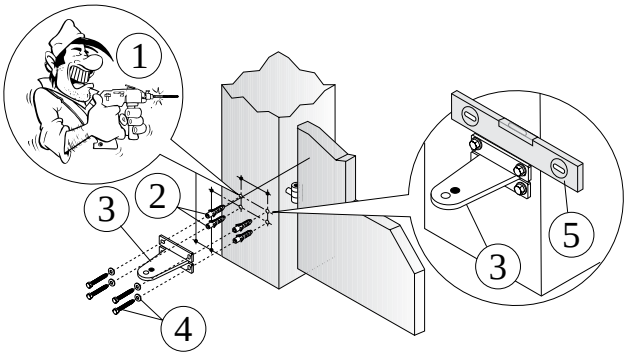
Table. 3: operator installation measurements

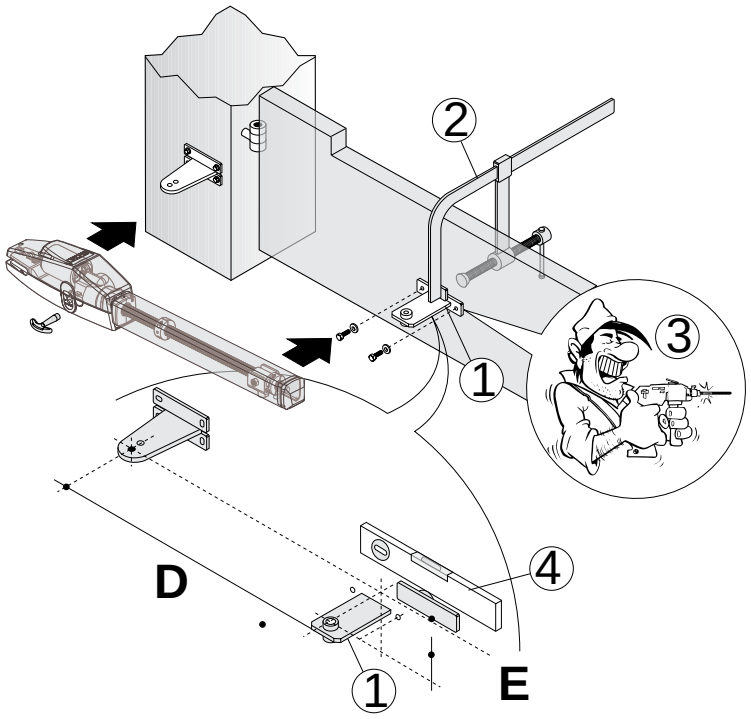
Opening	A mm	B mm	C max mm	D mm
90°	160	160	70	630

We recommend not to chose A & B values too different one another, in order to garantee a regular leaf movement and a minimum stress on the operator;
Measurement A: if increased, the opening angle increases too, and so force on the leaf decreases, and opening/closing speed increases.
Measurement B: if increased, the opening angle decreases, and so force on the leaf increases, and opening/closing speed decreases.

Rear bracket position

a) Define the position of the rear bracket , See table 3 above for A, B & C measurements
b) Check the exit of the electric wires tube position to be under the bracket (3).
c) Check sufficient space for the fixing (screws or welding) of the front bracket to the leaf.
d) Check the rear bracket is horizontal before fixing
e) Fix (with screws or welding) to the pillar in the desired position.





Front bracket position

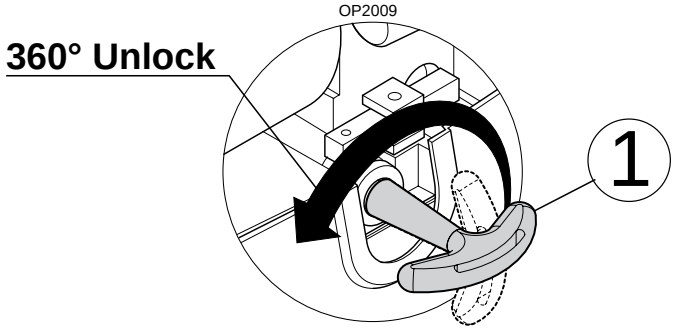
f) Take the leafs to the closed position against the mechanical stop
g) Bring the front bracket (1) to distance D (630mm) from the rear bracket
h) Position the front bracket (1) 54mm lower than the rear bracket (distance E)
i) Temporarily clamp the front bracket (1) to the gate in the correct position
j) Check the bracket is horizontal before fixing in place (4)

Distance D 630mm
Distance E 54mm

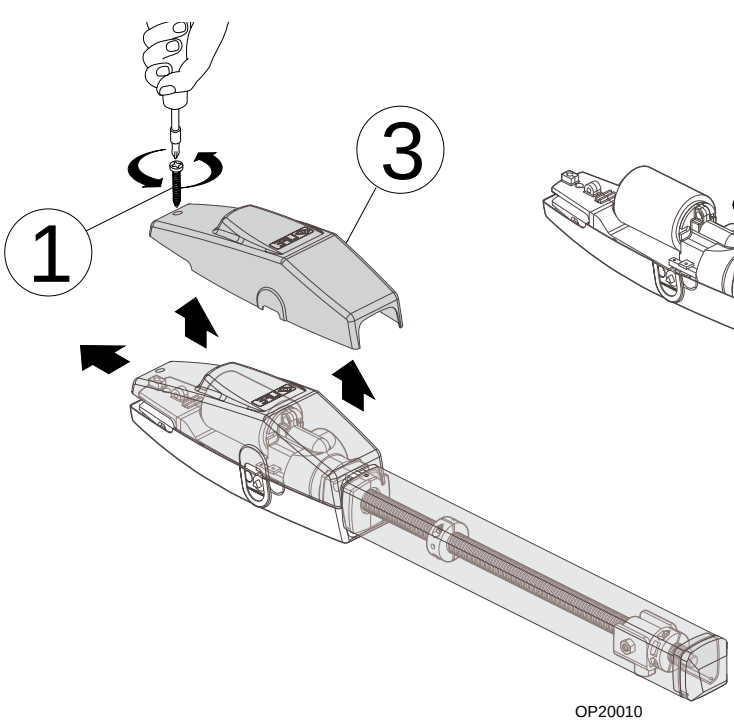
Operator position and stop adjustment

1. To unlock operator, insert key (1) and turn 360°anti-clockwise. From now on, the operator is unlocked, see fig. OP2009.

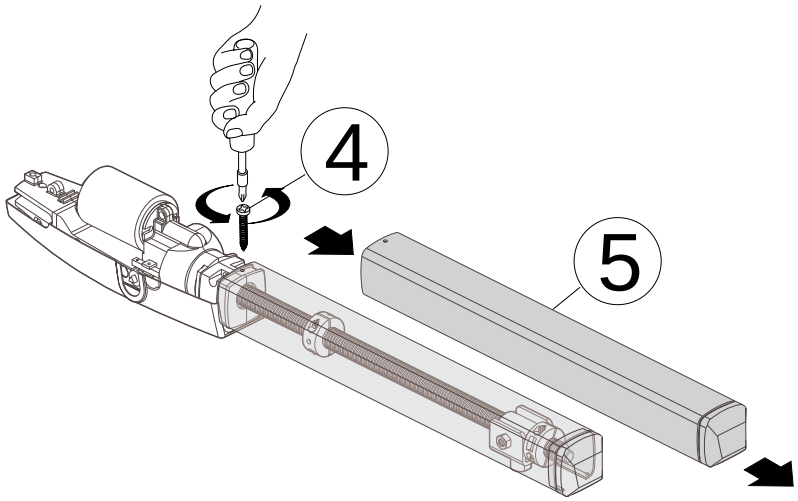
OP2009



2. Take the motor cover off (3) by removing screw (1). Remove the motor cover taking care not to damage the retaining clips. Remove screw (4) and slide cover from worm screw (5).

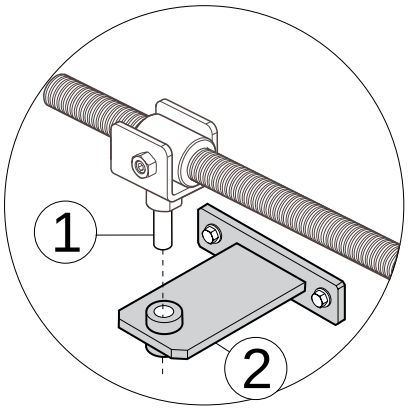


OP20010



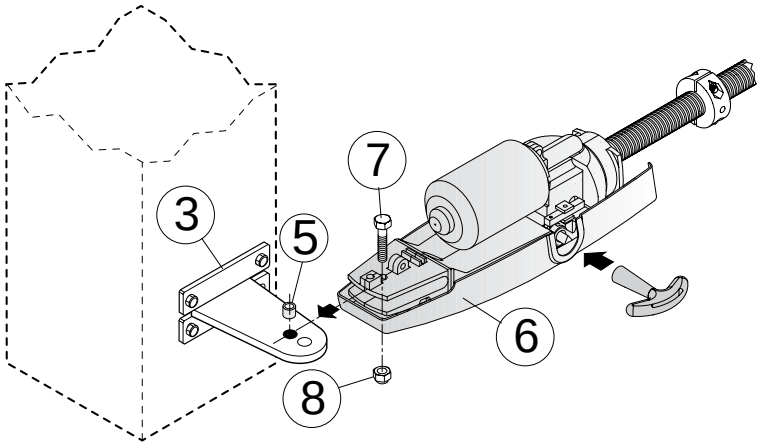
OP20011

3. Lift the operator and insert the drive pin (1) in the hole of the front bracket (2), see below

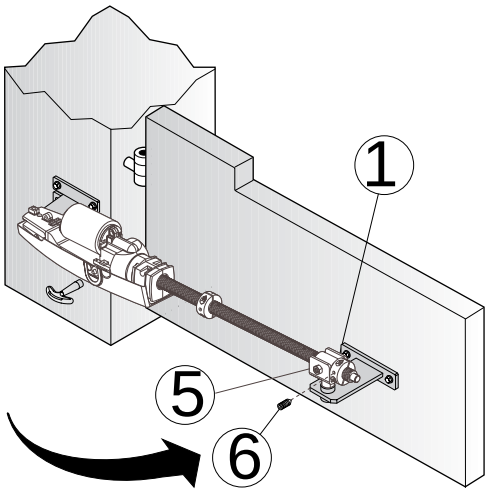


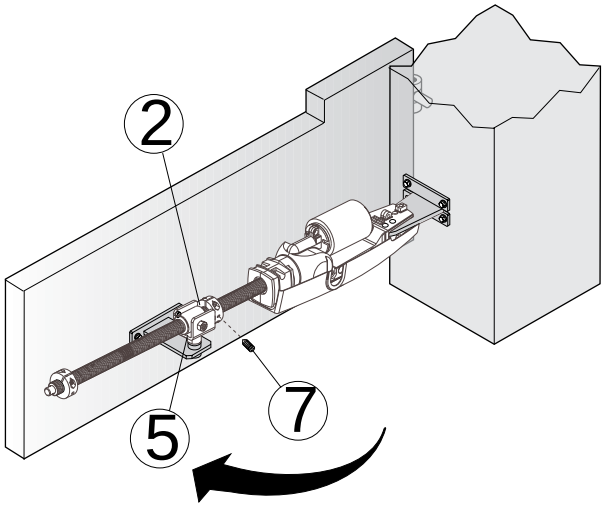
OP20012

4. Place the ferrule insert(5) in to the hole of rear bracket(3) slide the operator arm(6) on to the bracket(3), aligning the hole with ferrule insert. Position the bolt(7) and push through the operator arm and rear bracket hole. Secure with the self locking nut(8)



5. Fix operator (6) on front bracket (3) with screws closing strongly.
6. Open and close manually the gate several times, and check gate movement is regular, and operator movement is parallele to the gate movement.
7. Check ferrule support perfectly slides on operator's screw nut, and that with gate opened and closed, at least 5 mm remain between ferrule screw nut and opening & closing stops.
8. If necessary, use different hole on rear bracket, repeating operations shown on point c) & d).
9. Define accurately opening and closing positions of gate leaves, adjusting the stop positions in the following way:
   - § bring gate in closing position on mechanical stop,
   - § loosen closing stop(1) with allen key and move it up until it touches the drive pin bracket(5); then re-tighten the screws firmly and insert the headless locking screw(6). Tighten the headless screw(6).
   - § bring gate leaf in to the required open position
   - § loosen the opening stop(2) with an allen key and move it up until it touches the drive pin bracket(5); then re-tighten the screws firmly and insert the headless screws(7). Tighten the headless screw.





10. Re-lock the operator with the manual release key by turning 360 degrees clockwise.
12. Re-fit the worm screw cover, then the motor cover.

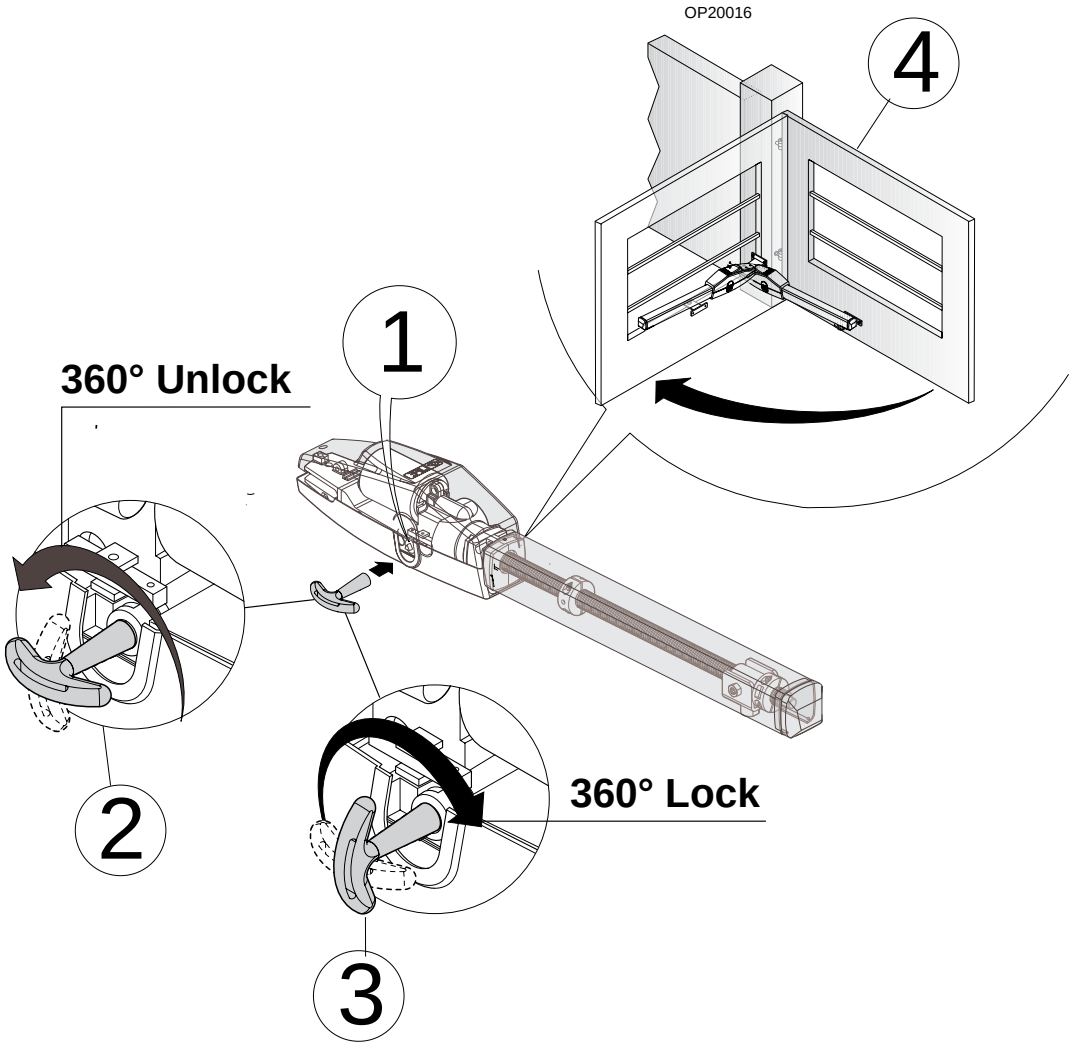
Operator unlocking

ATTENTION:

- **Installer must fix the unlocking operation label to the manual unlocking key.**
- **Manual unlocking activation could cause a uncontrolled gate movement, due to mechanical damages, or mechanical unbalanced conditions.**
- **Prior to maneuver, cut power to automation.**
- **Avoid pressure on key, or it will brake.**

This command will allow operator's transmission release, and manual leaf movement; it can be used in case of power failure or installation malfunction.
The unlocking occurs through a key that must be kept in a safe place.

a) Lift lock lid protection (1)
b) Insert triangle key (2) in lock and turn 360° anticlockwise ; gate transmission is now released.(4).



c) Leaf is now free and can be manually operated.
d) To reblock leaf, insert triangle key (3) and turn 360° clockwise; transmission is blocked again

LINKAGES AND CONNECTIONS

Before proceeding with connections, please read carefully sections regarding SAFETY.
All linkage & connection operations must be carried out with the control board disconnected from power supply; if disconnection device cannot be seen, apply a poster: "WARNING: MAINTENANCE IN PROGRESS".
Internal operator wiring operated by factory must not be alienated.

Operator electric connection

To enter inside wiring, remove cover (1) unscrewing screws (2), see fig. A

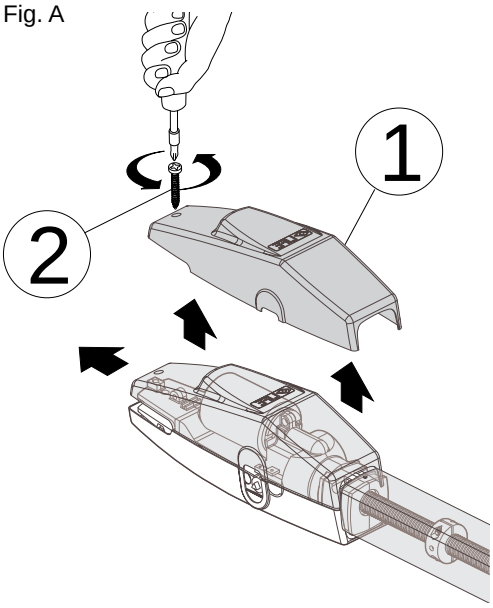
Tab. 5: electric wires description

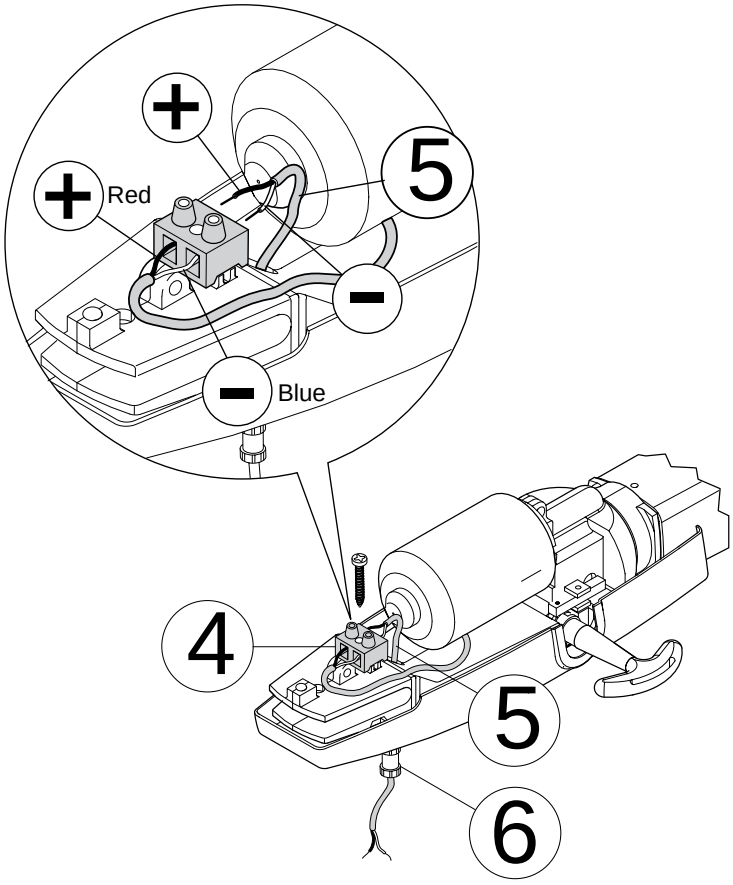
Pos.	Connection	Wire type
1	Motor supply	Wire 2x1,5 mm2

Fix 2 power wires (5) 2x1,5 mm2 to plug (4). Remember red colored wire is **+** and blue colored wire is **-**.

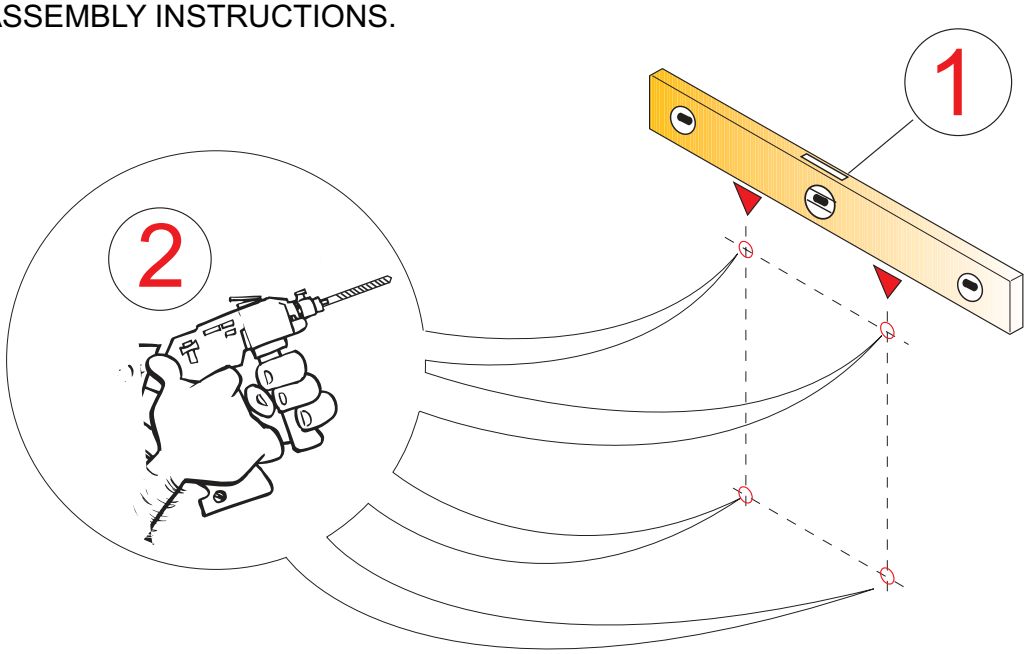
Clamp wire block (6) slightly loosing the wire from plug.

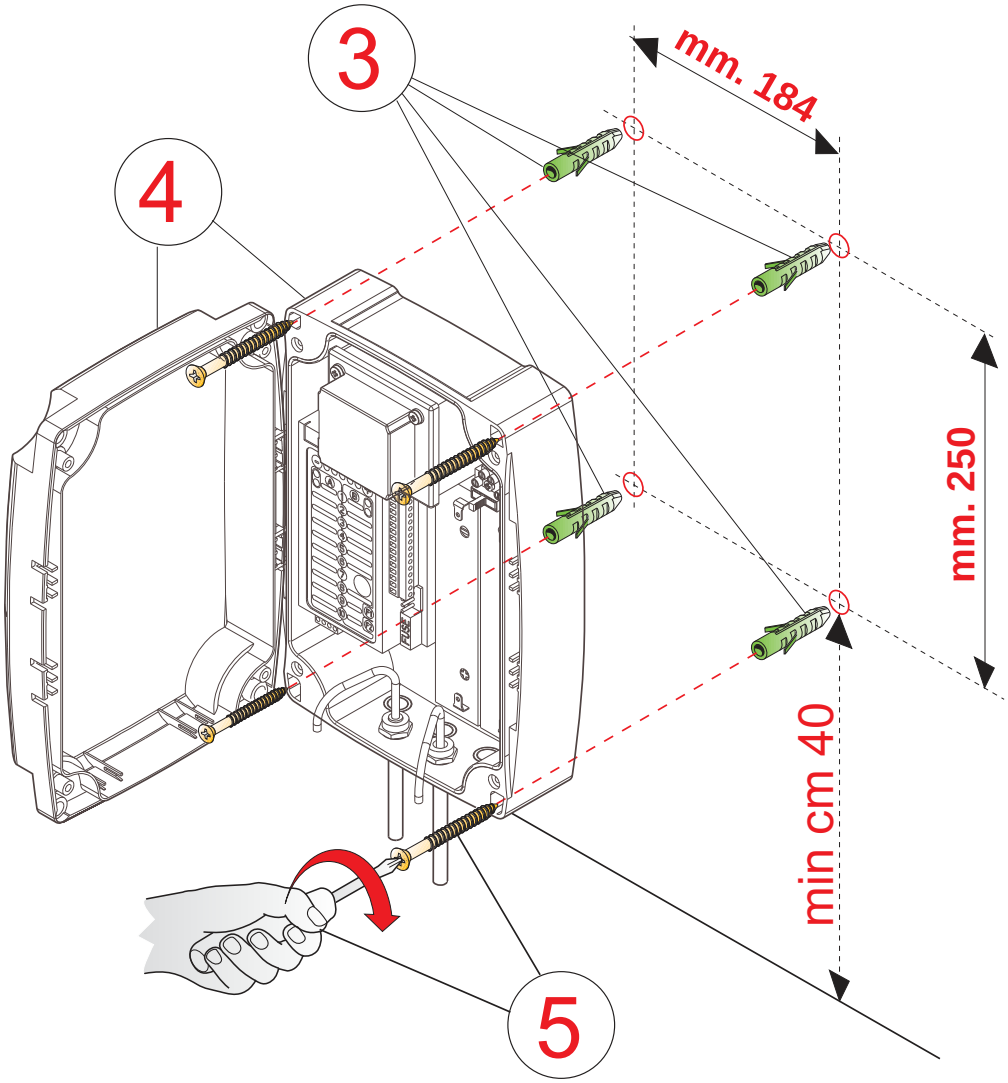
Fig. A





GB GEBOX ASSEMBLY INSTRUCTIONS.





List of electric cables

The cables needed may vary depending on the installation and type and quantity of devices installed.

The cables used in the installation must be IEC 60335 compliant.

Pos.	Connection	Type of cable
1	Electricity supply line	3x1,5 mm² cable
2	Power supply	Cable supplied with Schuko socket
3	Flashing light	2x1 mm² cable
4	Radio aerial	Screened RG58 50 Ω cable
5	Tx Photo	2x1 mm² cable
6	Rx Photo	4x1 mm² cable
7	Selector	3x1 mm² cable
8	Internal button panel.	3x1 mm² cable
9	Sensitive strip (signal)	2x1 mm² cable

Three internal fuses:
a) F1 protects the secondary 24v supply against transformer overload.
Technical characteristics: mini fuses 5x20 T10 A certificated by IEC 60127 or EN 60127.

b) F2 protects the primary 24v supply against motor overload.
Technical characteristics: mini fuses 5x20 T1 A certificated by IEC 60127 or EN 60127.

c) F3 protects the primary 24v supply, against motor overload.
Technical characteristics: mini fuses 5x20 F500 mA A certificated by IEC 60127 or EN 60127.

ATTENTION: the cables used must be suited to the type of installation.
It is the Fitter's responsibility to choose appropriate material.

- Use the power supply cable provided with the operator only.
- The power cable provided may not be extended or shortened
- All wires must be unsheathed as little as possible (6mm at the most), as close as possible to the connection terminals, in order to prevent accidental contact with live parts should the cables disconnect from the terminals.
- Do not pre-seal cables to be fastened to the terminals using screws.
- If it is possible that wires subject to voltage higher than 50 Volt RMS and very low voltage safety wires may come into contact with one another, wires with voltage higher than 50 volt RMS must be insulated with a sheath; or the very low voltage safety wire must have an insulating sheath at least 1mm thick.
- No external connection cables must be of the flat twin tinsel cord type.

Setting up the electric system and connection to the mains supply

This manual does not describe how the electrics system should be prepared for connection to the mains. It does, however, give the following warnings:

- **The electricity supply line must be installed and connected by an authorised electrician or professional fitter.**
- **The electricity supply must be adequately protected against short circuits and static discharge.**
- **The power supply network must contain an omnipolar circuit breaker with a contact opening distance equal to or greater than 3.5 mm that assures the complete disconnection of the power supply.**

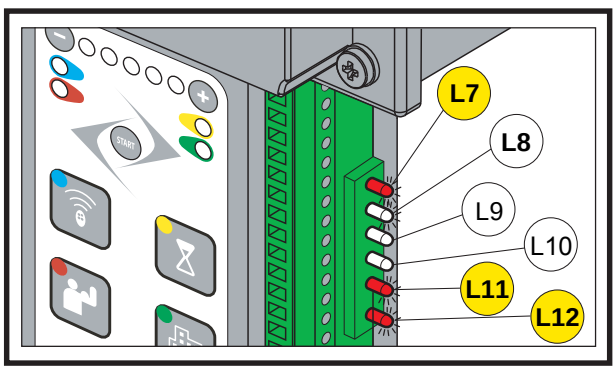
Control unit connections

Fitters must make the connections of the 230 Vac 50 Hz electricity supply, and the various automation devices.
Connections between the control unit, motor, encoder and transformer have already been performed by the Manufacturer.

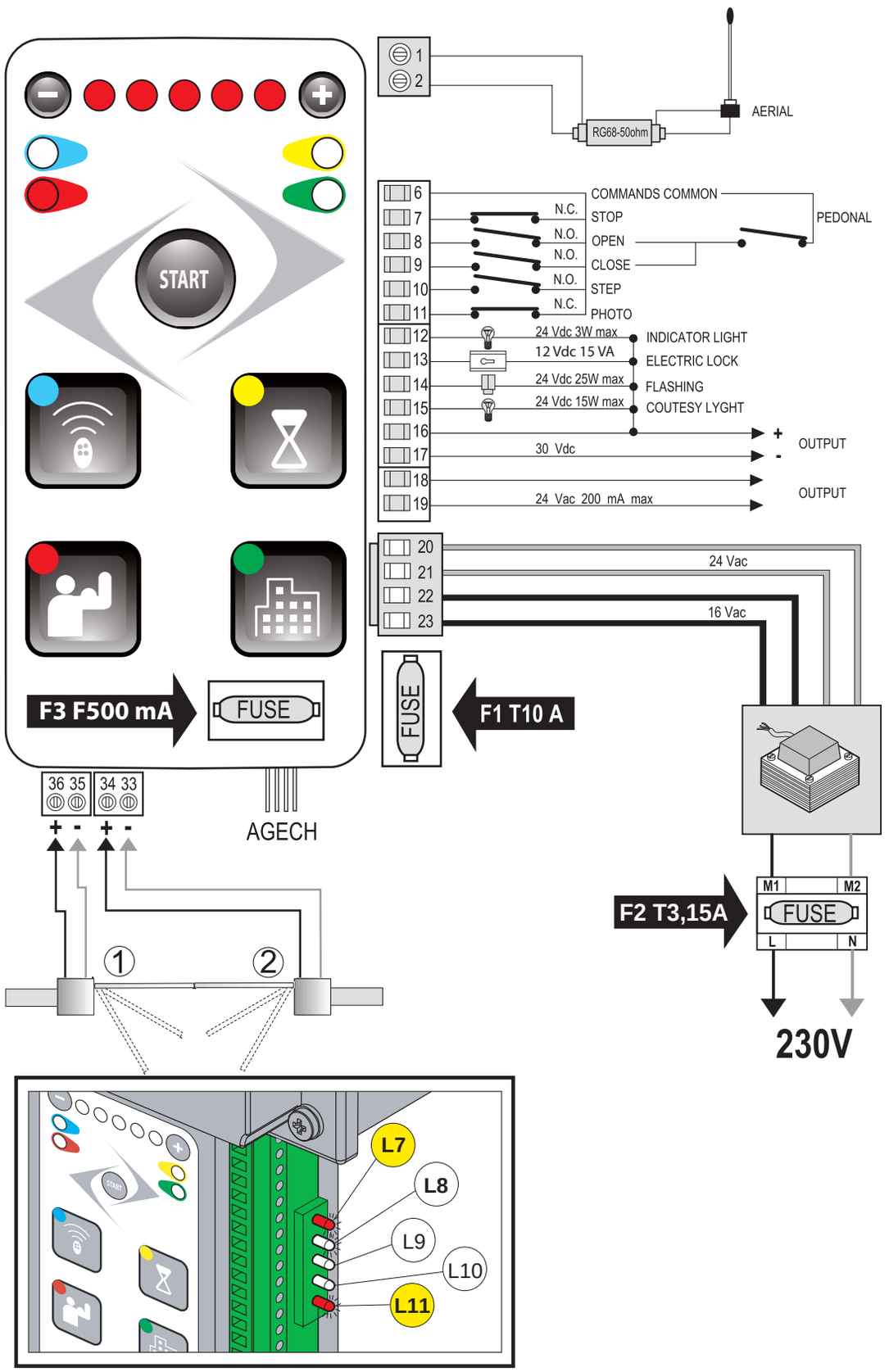
- Once the connections to the control unit have been made, the Fitter must use bands to join adjacent wires into groups of 2, 3 or 4 in order to prevent them coming away from the terminal board: bands must be attached as close as possible to the terminals, no more than 10mm away, taking care not to damage wire insulation. No cable may remain unpaired.
- The bands are only for unsheathed cables (sheathed cables are held in place by the sheath).
- Pay careful attention not to pair wires with voltages higher than 50 Volt RMD with lower voltage wires.
- The wiring performed internally by the manufacturer is already equipped with clamping bands.

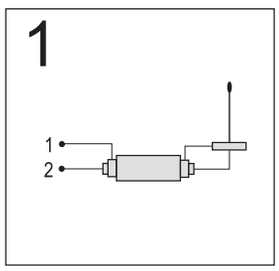
Indicator LEDs

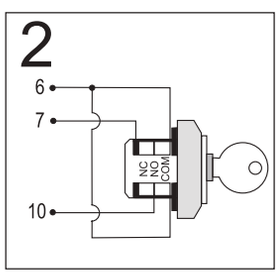
There is a row of 6 LEDs on the right hand side of the board, under the terminals. the NC inputs, stop and photo, the corresponding LEDs L7, L11 and L12 are normally lit; for the NO inputs open, close and step, the corresponding LEDS L8, L9 and L10 are normally off. These LEDs therefore indicate any malfunction of the connected devices.

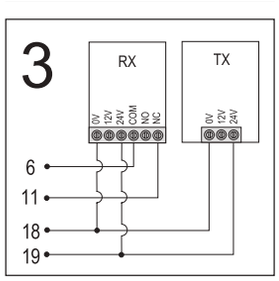


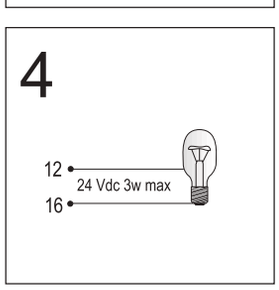
GB ELECTRICAL SYSTEM

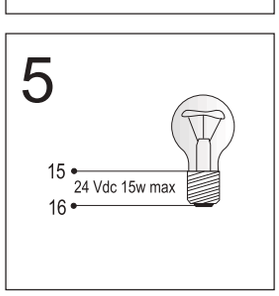


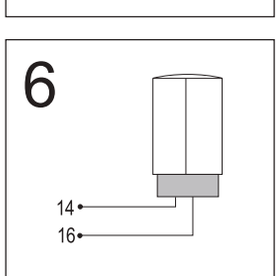


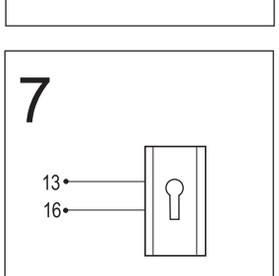












Wiring diagram of the right hand side of the control unit

Fig. 7 shows a diagram of the connection terminals for the aerial, various controls and the various power supplies (indicator light, electrolock, flashing light, courtesy light, photocells, selectors, etc.). . These are the vertical terminals positioned on the right hand side of the control unit and numbered from 1 to 19.

Terminals	Description (see wiring diagram on page 2A)
1 - 2	**Aerial:** aerial cable input 1 sheath, 2 cables. Use a RG58- 50ohm cable
6	**Common:** for stop, open, close, step and photo inputs.
6 - 7	**STOP***: programmable NC input, commands gate stoppage. Can be connected to safety devices such as an emergency stop button. When the command is released automatic closure never occurs and a new movement command must be given. **Leave jumpered if no device is envisaged**
6 - 8	**OPEN:** NO input, commands gate opening.
6 - 9	**CLOSE:** NO input, commands gate closure.
6 -10	STEP: NO input, commands gate movement according to the following cycles:
	SEMI-AUTOMATIC MODE: Open, stop, close, stop. 4-STEP MODE Open, pause, close, pause. 4-STEP with stop : OPEN-STOP-CLOSE-STOP CONDOMINIUM MODE: Open.
6 -11	**PHOTO*:** programmable NC input for photocells or safety devices. Does not intervene during gate opening, during closure causes reversal of motion until complete opening. Leave jumpered if no device is envisaged
12 - 16	**INDICATOR LIGHT:** 24Vdc 3W max output, for connecting an indicator light that copies the function of the flashing light during move ment and that remains on when the gate is open.
13 - 16	**ELECTROLOCK 12** Vdc output for connecting a 12 Vdc 15VA electrolock. To activate select the OPENING RAM BLOW function. Deactivated by default.
14 - 16	**FLASHING LIGHT:** 24 Vdc 25 W max output for connecting a Splendor SPL24 flashing light characterised by three flashing modes: 1) slow during door opening; 2) fast (flashing times halved) during closure. 3) three flashes and a pause to indicate a fault state or travel identification.
15 - 16	**COURTESY LIGHT:** 24 Vdc 15W max. output for connecting a courtesy light that switches on at the start of each movement (opening or closure) and is characterised by an adjustable on time.
16 (+) 17 (-)	**30 Vdc OUTPUT: power supply for various devices**
18 - 19	**24 Vac OUTPUT** (200mA max): power supply for various devices, e.g. photocells, external radio receivers.

N.C. = normally closed contact – **NO =** normally open contact

* 6-7 and 6-11 are NC **Pedestrian:** the command causes partial and adjustable opening of a single leaf. Can be given using a remote control or the terminal board. Obtained from the terminal board by jumpering terminal 8 OPEN with terminal 9 CLOSE, this jumper then connects with a switch to terminal 6 COMMON. When given from the terminal board, the PEDESTRIAN command excludes the OPEN and CLOSE commands.

Wiring diagram of the lower part of the control unit

The terminals on the lower right hand part of the control unit are reserved for the connections for the board's electricity supply through the transformer, the AGECH battery charger and the power supply of the two operators.

ATTENTION: the definition of leaf 1 and leaf 2 is essential for automation operation. Fitters must pay careful attention to the following.

Terminals	Description (see wiring diagram on page 2A)	
20-21	24Vac	Transformer power input.
22-23	16Vac	
24	AGECH battery charger connection (optional).	
33	-	Motor 2, 24Vdc power supply
34	+	
35	-	Motor 1, 24Vdc power supply
36	+	

1. **Leaf 1:** is the first to open when the gate is closed and the second to move when the gate is open; it finishes its closure travel after leaf 2.
2. **Leaf 2:** is the second to open when the gate is closed and the first to move when the gate is open; it finishes its closure travel before leaf 1.

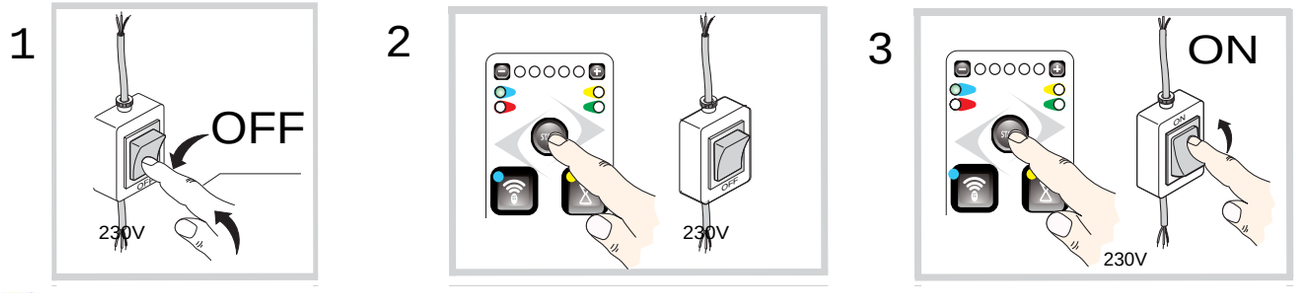
PROGRAMMING THE CONTROL BOARD

STOP PLATES - Ensure that the open and close stop metal bumpers set to the correct position.

SINGLE MOTOR - The control unit automatically recognize the installation of the single motor, it is sufficient to connect M1 to terminals nr. 35-36

To do TOTAL RESET: With the power off, hold the start button down ,reinstate the power supply and release the button when the 1th red led's will flash.

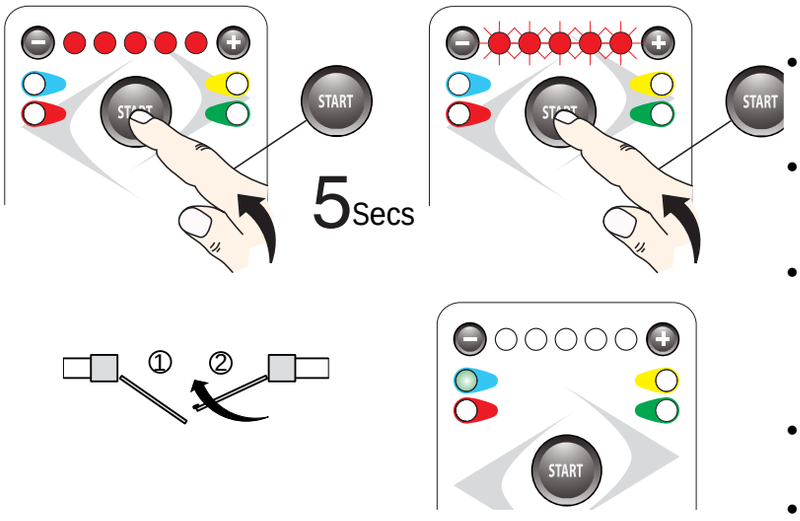
PHASE 1



Energy Saving

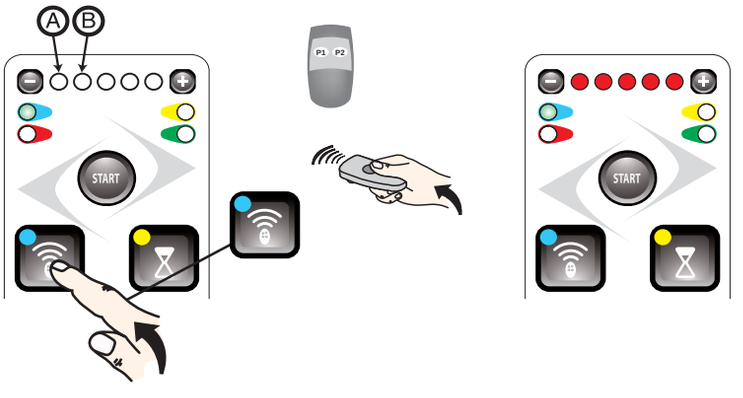
In order to save energy, we have introduced the function Energy Saving. 10 minutes after the end of programmation of the control board, the LED of the keyboard go out and it is no more possible to use the control board. To get the control board working again, switch it off and on.

PHASE 2



- Position the gate leafs at 45 degrees.
- Press the start button for 5 seconds. the 5 leds at the top of the board will light and start to flash.
- Press the start button and motor 2 should run closed. If it runs open. you must invert the cables of electric motors to invert the movement. The red and green led's will flash.
- Once motor 2 has closed, motor 1 will then close, once closed it will re-open followed by motor 2. Once both motors are open, motor 1 will start to close again followed by motor 2.
- Once both motors have completed this full close cycle the programming is complete and the red led's will light and green led's will flash. The gates will now operate on the start button in semi automatic mode.**OPEN-STOP-CLOSE-STOP**
- This programming will set a default leaf delay time. If you wish to change this please refer to the manual set up instructions (page 11)
- You can now encode the radio transmitters and enter the programming menus to suit the type of operation required.

PHASE 3



PROGRAMMING RADIO TRANSMITTERS
TOTAL OPENING COMMAND

- Press the radio icon button (top left) once. The left green led will light and the first (L to R) of the top 5 led's (A) will light.
- Hold down the button on the transmitter that you want to perform a total opening of the gates. Once the top 5 led's light the transmitter has been coded.
- To exit wait 25 seconds or push the radio icon button twice.

PEDESTRIAN OPENING COMMAND (ACTIVE ON MOTOR 1)

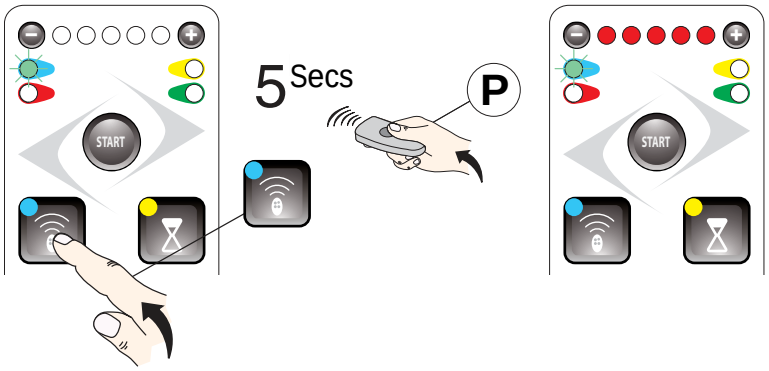
- Press the radio icon button (top left) **TWICE**. The left green led will light and the second (L to R) of the top 5 led's (B) will light.
- Hold down the button on the transmitter that you want to perform a pedestrian opening of the gate. Once the top 5 led's light the transmitter has been coded.

SEMIAUTOMATIC mode is enabled: by giving the 'STEP' command, the automation changes movement following the sequence 1 –**OPEN** 2 – **STOP** 3 – **CLOSE** 4 – **STOP**. **Automatic re-closure is not enabled.**

Once programming is complete the START button acts as a step command

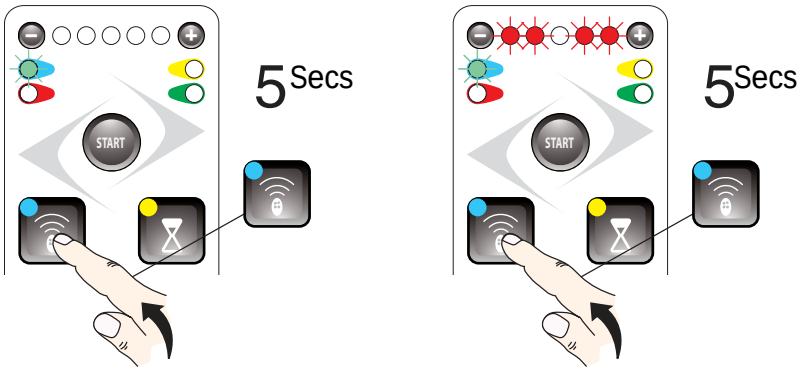
DELETING RADIO CONTROL TRANSMITTERS

The control unit is fitted with a built-in radio receiver with a 1 channel 1000-code memory, with a 433.92 MHz frequency with LIFE Rolling Code and Auto code encoding.



DELETING A SINGLE RADIO TRANSMITTER

- Press the radio icon button (top left) for 5 seconds. The left green led will light and start ashing.
- Hold down the button on the transmitter you wish to delete until all the top 5 led's light. The transmitter has been deleted
- To exit wait 25 seconds or push the radio icon button once.



DELETING ALL RADIO TRANSMITTERS.

- Press the radio icon button (top left) for 5 seconds. The left green led will light and start ashing.
- Press for ve more seconds, the rst two and the last two led's will ash alternatively. All transmitters have been deleted
- To exit wait 25 seconds or push the radio icon button once.

PHOTOCELL FUNCTIONS

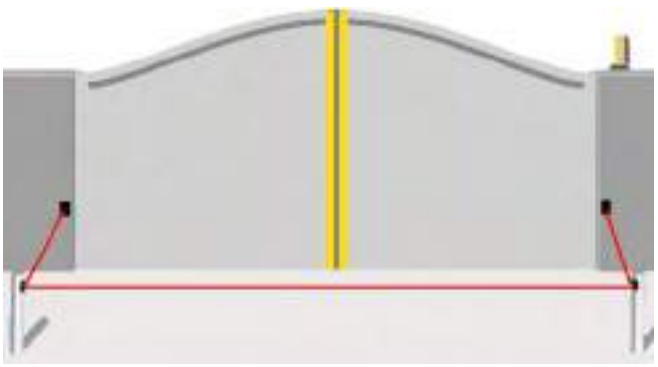


Photo Input

Opening - No effect, continues to open.
Closing - Re opens.

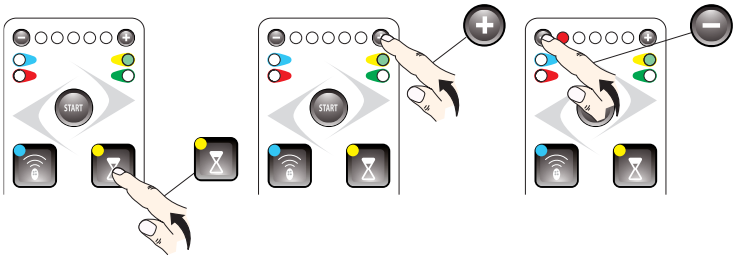
Photo1 input

Opening - Stops and continues opening when photocells are cleared.
Closing - Stops and then reopens when photocells are cleared.

Photo2 input

Opening - Stops and recloses slightly. (It will close fully after a pause time if set)
Closing – No effect.

PROGRAMMING MENUS



Press ⊖ and ⊕ to set the various **PAUSE TIME** values.

Wait 25 seconds or press  again to quit.

AUTOMATIC CLOSING

In this mode by pressing the start button or radio transmitter the automation changes it motion as follows
OPEN-PAUSE- CLOSE – PAUSE

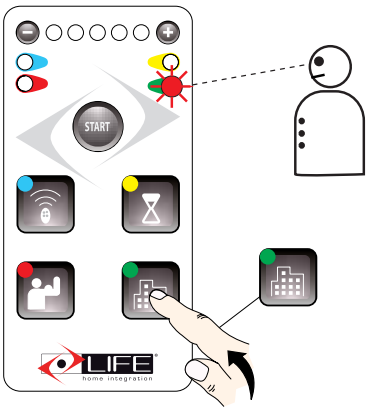
SELECTING A PAUSE TIME

- Press the time button (top right) and the right green led switches on.
- If none of the top 5 led's are lit automatic closure is not enabled.
- Press the + button to increase or the – button to decrease the pause time.
- Wait 25 Seconds or press the time button to quit

LEDS ON	PAUSE TIME
⊖○○○○○⊕	AUTOMATIC RE-CLOSURE IS NOT ENABLED
⊖●○○○○⊕	5 s
⊖●●○○○⊕	10 s
⊖●●●○○⊕	30 s
⊖●●●●○⊕	60 s
⊖●●●●●⊕	120 s

OPTION MENU

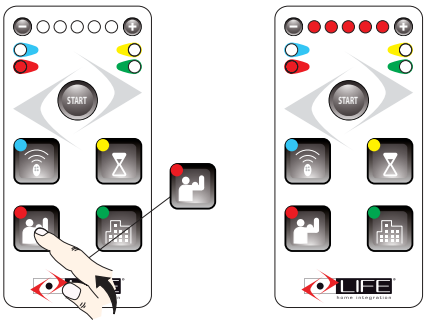
Press the option button (bottom right) once, then press in sequence to scroll through the options as shown by the five led's at the top. The flashing of the led indicates the option selected. The + button is used to select the function indicated by the led staying lit without flashing. The – button will de select the option, led off. To exit continue to scroll through to option 5.



LEDS	OPTIONS
⊖○○○○○⊕	**No function is active.**
⊖●○○○○⊕	**Residential : The automation closes automatically after the set PAUSE TIME**
⊖○●○○○⊕	**Functioning mode as OPEN – STOP – CLOSE – STOP.**
⊖○○●○○⊕	**Activation of the electrolock.**
⊖○○○●○⊕	**Input STOP becomes FOTO1, the photocell is activated also for the opening phase** (See page 8 for details)
⊖○○○○●⊕	**When gate has been opened, after passing between the photocells the gates will close**

FORCE

The force function regulates the thrust and the speed of the automation.



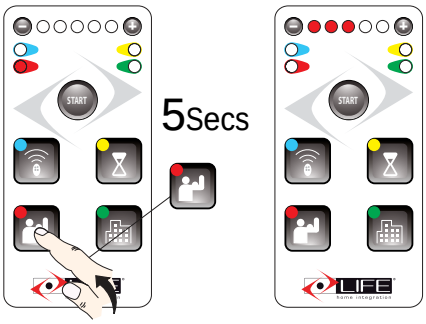
Wait 25 seconds or press again to quit.

- Press the force button (bottom left) and the left red led switches on.
- Press the + and - buttons to set the force values.
- The force value is indicated by the 5 led's at the top of the board.
- Wait 25 seconds or press the force button again to quit

LEDS ON	FORCE VALUE
⊖○○○○○⊕	**Minimum**
⊖●○○○○⊕	
⊖●●○○○⊕	
⊖●●●○○⊕	
⊖●●●●○⊕	
⊖●●●●●⊕	**Maximum**

OBSTACLE DETECTION

The automation is tted with an obstacle detection system. The automation inverts its movement when it strikes an obstacle during the opening and closing phases.
1.During the closure phase, if the control unit identi es an obstacle, the automation inverts the motion and performs a complete opening. If the obstacle is detected 3 times consecutively, the automation stops in the open position awaiting a command.
2.If the control unit identi es an obstacle on opening, the automation performs a short reversal of motion, before stopping awaiting a command.



Wait 25 seconds or press again to quit.

- Press the force button (bottom left)for 5 seconds and the left red led switches on and then goes off.
- Press the + and - buttons to set the obstacle detection values.
- Wait 25 seconds or press the force button again to quit

LEDS ON	OBSTACLE DETECTION
⊖○○○○○⊕	**NO OBSTACLE DETECTION**
⊖●○○○○⊕	**MINIMUM**
⊖●●○○○⊕	
⊖●●●○○⊕	
⊖●●●●○⊕	
⊖●●●●●⊕	**MAXIMUM**

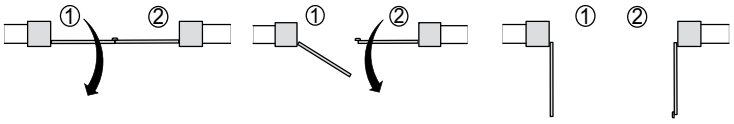
MANUAL PROGRAMMING

POSITION THE GATE AT 45 DEGREES

- Press the start button for 5 seconds, the rst of the 5 top led's light and ash.
- The programming can be done manually with a radio transmitter or a switch connected across terminal 6 & 10 .

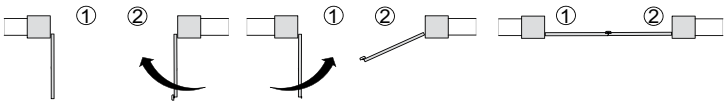
LEARNING THE CLOSING LIMIT

- Give a command with a radio transmitter or with a switch connected across terminals 6 & 10. Motor 2 will run closed and shut off when it drives against the close stop. The right red led will remain on.
- Give a second command using the radio transmitter or switch and motor 1 will run closed and shut off when it drives against the close stop. The left red led will remain on.



LEARNING THE OPEN LIMIT

- Give a command with a radio transmitter or with a switch connected across terminals 6 & 10. Motor 1 will run open. To set the required opening leaf delay, give a second command when the rst gate has achieved the required delay.
- The two motors will run to the open stops and shut off. The two red led's will light.



LEARNING THE FULL CLOSING TRAVEL

- Give a command with a radio transmitter or with a switch connected across terminals 6 & 10. Motor 2 will run closed. To set the required closing leaf delay give a second command using the radio transmitter or switch when motor 2 has achieved the required delay.
- The two motors will run to the closing stops and shut off. To verify the completion of the manual programming the two red led's will light and the green led's will ash.

If the result is not satisfactory carry out the procedure again.

If the result is not satisfactory to reset the power and start over from scratch.

5 GENERAL INFORMATION

It is strictly forbidden to copy or reproduce this instruction manual without written permission to do so and subsequent verification by **LIFE home integration**. Translation into other languages of all or part of the manual is strictly forbidden without previous written authorisation from and subsequent verification by **LIFE home integration**. All rights on this document are reserved.
LIFE home integration will not accept responsibility for damage or malfunctions caused by incorrect installation or improper use of products and Users are therefore recommended to read this manual carefully **LIFE home integration** will not accept responsibility for damage or malfunctions caused by the use of the automation together with the devices of other manufacturers; such action will render the warranty void.
LIFE home integration will not accept responsibility for damage or injury caused by non-compliance with the installation, set up, maintenance and use indications contained in this manual and the safety instructions described in the SAFETY INSTRUCTIONS AND WARNINGS chapter.
With the aim of improving its products, LIFE home integration reserves the right to bring about alterations to them at any time, without giving prior notice. This document conforms to the state of the automation at which it is provided when released for sale.

5.1 INFORMATION ON THE MANUFACTURER

LIFE home integration is the manufacturer of the **RG1 24DL** control unit (referred to for short as "control unit") and the owner of all rights concerning this document.. The Manufacturer's information as required by Machinery Directive 98/37/EC is given below:

•	Manufacturer:	**LIFE home integration**
•	Address:	**Via S.Pertini,3/5 – 31014 COLLE UMBERTO (TV) Włochy**
•	Telephone:	**+ 39 0422 809 254**
•	Fax:	**+ 39 0422 809 250**
•	http:	**www.homelife.it**
•	e-mail:	**info@homelife.it**

The identity plate bearing the information on the Manufacturer is fixed to the control unit. The plate specifies the type and date (month/year) of manufacture of the product.
For further information on technical and/or commercial issues and technician call-out and spares requests, Clients may contact the Manufacturer or area representative from which the product was purchased.

5.2 INTENDED USE

- **The RG1 UNIR DLcontrol unit has been exclusively designed to command 1 electromechanical operator with 230 Vac power supply destined to motorising 'residential' type leafs. Any usage differing from that described above is forbidden.**
- **The control unit may only be used with other LIFE products.**
- **The manufacturer declines all responsibility for damage caused by improper use. All risks are the fitter's responsibility and the warranty shall be rendered void.**
- **The control unit may not be installed or used in potentially explosive environments.**
- Motorised gates must conform to current European standards and Directives, including EN 12604 and EN 12605.
- The control unit may only be used when in perfect working order and in compliance with the intended use, in the awareness of safety and hazard conditions and in compliance with the instructions for installation and use.
- Any dysfunctions that may pose threats to safety must be eliminated immediately.
- The control unit may not be used in environments prone to flooding.
- Do not use the operator in environmental conditions characterised by harsh atmospheric agents (e.g. salty air).

6 SAFETY INSTRUCTIONS AND WARNINGS

6.1 General instructions and warnings

- **This manual is designed for use by PROFESSIONAL FITTERS only. Installation of the control unit requires practical and theoretical knowledge of mechanics, electrics and electronics as well as current sector legislation and regulations.**
- **Once the control unit has been installed, it is forbidden for users to perform any operation on the control unit even following the instructions in this manual, which, as mentioned previously, are intended for use by qualified personnel only.**
- **Fitters must operate in compliance with the following: law 46/90, directive 98/37/EC, 73/23/EEC, 89/336/EEC and subsequent amendments. He/she must also make constant reference to harmonised standards EN 12453 and EN 12445.**
- **The indications given in this manual must always be observed when installing, connecting, adjusting, testing and setting the control unit. The Manufacturer declines all responsibility for damage or injury caused by non-observance of the instructions contained in this manual.**
- The Manufacturer declines all responsibility for damage and faults to the control unit caused by non-observance of the instructions contained in this manual.
- Keep this manual in a safe and easily accessible place so that it can be consulted rapidly when necessary.
- During installation, connection, trial run and usage of the control unit, observe all applicable accident prevention and safety regulations.
- In the interests of safety and optimal functioning of the control unit, only use original spares, accessories, devices and fastening apparatus.
- Do not perform alterations on any control unit device or component. This type of operation may cause malfunctions. The manufacturer declines all responsibility for damage caused by products that have been modified.
- Should liquids penetrate inside the control unit, disconnect the electricity supply and contact the Manufacturer's Assistance Service immediately; use of the control unit in such conditions may cause hazard situations.
- In the event of long periods of inactivity, in order to prevent the leakage of harmful substances from the battery (optional), it should be removed, stored in a dry place and recharged periodically.
- In the case of faults or problems that cannot be resolved using the information contained in this manual, contact the Manufacturer's assistance service.

6.2 Storage instructions and warnings

- **The Manufacturer declines all responsibility for damage and faults to control unit functioning caused by non-compliance with the storage instructions given below.**
- The control unit must be stored in closed, dry places, at room temperatures of between –20 and +70°C and raised off the ground.
- Keep the control unit away from sources of heat and naked flames, which could damage it and cause malfunctions, fires or hazard situations.

7 INSTALLATION

ATTENTION: Important safety instructions. Follow all instructions carefully, incorrect installation may cause serious injury.
Before commencing installation we highly recommend reading the instructions and warnings contained in this manual carefully (see the SAFETY INSTRUCTIONS AND WARNINGS Chap) and observing the instructions it contains.

7.1 Instructions and warnings for installations

- **Before commencing installation read the. SAFETY INSTRUCTIONS AND WARNINGS chapter carefully**
- **The PROFESSIONAL FITTER who installs the control unit is responsible for performing risk analysis and regulating the automation's safety devices consequentially.**
- **The Fitter must check that the temperature range declared on the control unit is suited to the place in which the device is installed.**
- **Any normally open/off buttons installed for the activation of the operator must be positioned so that they are within view of the gate but distant from moving parts. Unless said commands operate using keys, they must be positioned at a minimum height of 1.5m and not accessible to unauthorised persons.**
- During installation, make constant reference to harmonised standards EN 12453 and EN12445.
- Ensure that the individual devices to be installed are compatible with the **RG1 UNIR DL** control unit. Do not proceed if even just one device is unsuitable for the intended use.
- Ensure that the place of installation of the central unit is not prone to flooding, does not contain sources of heat or naked flames, fires or hazard situations in general.
- During installation, protect control unit components in order to prevent liquids (e.g. rain) and/or foreign bodies (earth, gravel, etc) penetrating inside.
- Connect the control unit to a power supply line created in compliance with current regulations and earthed and fitted with a power supply sectioning switch.
- Wrapping materials must be disposed of in compliance with local regulations.
- Wear protective goggles when making holes for clamping.

In the event of work at heights of over 2m from the ground, for example for the installation of the indicator lamp or aerial, fitters must be equipped with ladders, safety harnesses, protective helmet, and all other equipment required by law and the standards governing this kind of work. Refer to Directive 89/655/EEC amended by 2001/45/EC.

8 TESTING AND TRIAL RUN

- **The testing and trial run must be performed by a COMPETENT PERSON supervised and aided by a PROFESSIONAL FITTER. It is the responsibility of the person who tests and sets up the automation (of which the control unit is a part) to perform the checks required in accordance with the risks existing and to check conformity with the relevant legislation and standards, in particular with EN standard 12445, which governs the methods for performing trials on gate automations and EN standard 12453 that specifies the performance requisites concerning safety of use.**
- The testing and trial run are the most essential phases of installation for guaranteeing maximum operating safety.
- The checks and procedures for testing may also be used for routine checks on the automation and its devices.
- The automation may only be tested if a non-hazardous force tolerance has been set. Force tolerance must be adjusted to a minimum value so as to exclude the danger of injury during closure.
- Adjust the maximum force in line with EN standard 12445.
- Never touch the gate or moving parts when they are in motion.
- Remain at a safe distance when the gate is in motion: only pass when the gate is completely open and immobile.
- In the event of malfunctions (noisiness, jerky movements, etc.) suspend the use of the automation immediately: failure to observe this rule may entail serious hazards, risks of accidents and/or serious damage to the gate and the automation.
- Always remember that the following residual risks exist when the gate is in movement:
  a) impact and crushing against the main closure edge (against the single leaf or between the two leaves);
  b) impact and crushing in the opening area;
  c) cshearing between the moving and the fixed guides and support during movement;
  d) mechanical risks caused by movement.

8.1 Testing

During testing, ensure that the measurement of the gate's impact force has been performed in accordance with EN standards 12445 and 12453.

- **Check that the indications given in the SAFETY INSTRUCTIONS AND WARNINGS and INSTRUCTIONS AND INDICATIONS FOR INSTALLATION chapters have been carefully observed.**
- **Ensure that the automation is correctly adjusted and that the protection and release systems are in good working order.**
- Using the key selector or the radio control perform gate opening and closure tests and ensure that each movement of the gate corresponds to the control unit settings. Perform as many checks as necessary to be certain of perfect operation.
- Ensure the correct operation of the LEDs on the keyboard of the control unit (see specific manual).
- In particular, for photocell checks, check that there is no interference with other devices. Pass a cylindrical tube with a diameter of 5cm and a length of approximately 30 cm through the optic axis that connects the two photocells. Perform this check firstly close to the transmitter and then close to the receiver and lastly halfway between the two.
- In all three cases, the device must intervene by passing from the active state to the alarm state and vice versa, thus causing the action set on the control unit: for example, during a closure manoeuvre it must cause inversion of movement.
- Perform the photocell operation test required in compliance with EN standard 12445 p. 4.1.1.6. The results must satisfy EN standard 12453 p. 5.1.1.6.

ATTENTION: once the automation has been tested, the parameters set must not be altered. If further adjustments (e.g. alterations to the voltage value) are made, all the checks required for testing and compliance with EN standard 12445 must be repeated.

8.2 First usage

The automation may only be used for the first time once all the checks described in the TESTING chapter have been performed successfully. The automation may not be used in precarious or temporary conditions.

a) **Compile a technical file for the automation, which must include at least:**
   - a general mechanical and electrical diagram,
   - risk analysis and solutions adopted for eliminating or reducing risks,
   - manuals of the individual components,
   - list of the components used,
   - instructions for use and warnings concerning use by the owner,
   - system maintenance record
   - declaration of the system's CE conformity

b) Fix a CE marking plate to the gate, bearing at least the following information:
   - Name and address of the party responsible for installation and testing;
   - Type of automation,
   - model,
   - registration number,
   - year of installation,
   - CE mark.

c) Fill in the declaration of conformity and give it to the owner of the automation.
d) Compile the guide with the instruction manual (EN 12635 p. 5.3 and 5.4) and give it to the owner of the automation.
e) Compile the maintenance and improvement log (EN 12635 p. 5.3) and give it to the owner of the automation.
f) Compile the guide containing the instructions for maintenance that provides instructions concerning the maintenance of all automation devices (EN 12635 p. 5.3 and 5.5) and give it to the owner of the automation.
g) Before the first use of the automation, the owner must have been given adequate information concerning hazards and residual risks.

9 SAFETY INSTRUCTIONS AND WARNINGS

9.1 Instructions and warnings for use

- **It is the fitter's duty to perform risk analysis and inform the user/owner of any existing residual risks. Any residual risk detected must be recorded in writing in the operator manual.**
- The following residual risks are usually present in moving gates: impact and crushing against the main closure surface (of the single leaf or between the two leaves); impact and crushing in the opening area; crushing between the mobile and fixed guide and support parts during movement; mechanical risks caused by movement.
- The Manufacturer will not accept responsibility for damage or injury caused by the non-observance of the information on use contained in this manual, and the failure to observe the safety indications given below.
- The Manufacturer declines responsibility for damage and malfunctions caused by non-compliance with the instructions for use.
- Keep this manual in a safe and easily accessible place so that it can be consulted rapidly when necessary.
- Before activating the gate ensure that all persons are at a safe distance.
- Never touch the gate or moving parts when they are in motion.
- Remain at a safe distance when the gate is in motion: only pass when the gate is completely open and immobile.
- Do not allow children to play with gate controls; do not leave radio controls or other control devices within children's reach.
- Prevent children from playing or standing in the vicinity of the gate or the control organs (radio controls). The same precautions should be adopted for disabled persons and animals.
- In the event of malfunctions (noisiness, jerky movements, etc.) suspend the use of the automation immediately:: failure to observe this rule may entail serious hazards, risks of accidents and/or serious damage to the gate and the automation. Contact a PROFESSIONAL FITTER and in the meantime use the gate manually by disconnecting the operator (see the OPERATOR/ACTUATOR RELEASE chapter) OPERATOR/ACTUATOR RELEASE chapter) of the operator manual.
- In order to maintain the automation in efficient conditions, ensure that the operations indicated in the MAINTENANCE chapter are performed at the frequency indicated by a PROFESSIONAL FITTER.
- Examine the installation frequently in order to check that there are no signs of mechanical unbalance, wear and damage to the wires and assembled parts: do not use the operator until the necessary repairs or adjustments have been made.
- Should liquids penetrate inside the control unit, disconnect the electricity supply and contact the Manufacturer's Assistance Service immediately; use of the control unit in such conditions may cause hazard situations. The automation may not be used in these conditions, even with buffer batteries (optional).
- If a problem arises that cannot be resolved using the information contained in this manual, contact the Manufacturer's assistance service.

10 MAINTENANCE

10.1 Maintenance instructions and warnings

- **Once the automation has been tested, the parameters set must not be altered. If further adjustments (e.g. alterations to the voltage value) are made, ALL THE CHECKS REQUIRED FOR TESTING AND COMPLIANCE WITH STANDARDS MUST BE REPEATED.**
- **The Manufacturer declines responsibility for damage or injury caused by non-compliance with the information provided in this manual and the safety instructions provided below**
- **The Manufacturer declines all responsibility for damage and malfunctions deriving from non-compliance with the maintenance instructions.**
- **In order to keep the operator ef cient and safe, follow the cleaning, checking and routine maintenance procedures as described in this manual. This is the owner's duty.**
- **Any checking, maintenance or repair work must be conducted by a PROFESSIONAL FITTER**
- **Always switch off the electricity supply in the event of malfunctions, breakdowns and before any other operations in order to avoid the gate from being activated.**
- **Always disconnect the operator's power supply before performing any maintenance or cleaning operation.**
- **The owner is NOT authorised to remove the control unit cover as it contains live parts.**
- **If the power cable is damaged, it must be replaced by the Manufacturer or its technical Assistance service or in any case a person with a similar quali cation in order to avoid risks.**
- If the power cable is damaged, it must be replaced by the Manufacturer or its technical Assistance service or in any case a person with a similar qualification in order to avoid risks.
- Do not perform technical or programming modifications on the control unit. Operations of this type may cause malfunctions and/or risk of accidents. The manufacturer declines all responsibility for damage caused by products that have been modified.
- In the event of intervention of automatic or fuse switches, before restoring function conditions identify and eliminate the fault. Request the intervention of a PROFESSIONAL FITTER.
- The disconnection and replacement of the pair of buffer batteries (optional) may be performed by a PROFESSIONAL FITTER only.
- If a fault that cannot be solved following the information contained in the present manual arises, contact the manufacturer's assistance service.
- All maintenance, repair or replacement of parts must be recorded in the maintenance log, which is SUPPLIED AND INITIALLY FILLED IN BY THE FITTER.

10.2 Routine maintenance

Every 6 months a PROFESSIONAL FITTER should repeat the series of tests described for automation testing (see INSTALLATION MANUAL – TESTING AND TRIAL RUN Chap.). – TESTING AND TRIAL RUN Chap.).

11 DEMOLITION AND DISPOSAL

- The control unit is constructed using various materials, which implies the adoption of different disposal procedures. Refer to regulations in force in the country in which the automation is installed, especially with regard to the buffer batteries (if present).
- If present the batteries must be removed from the control unit prior to disposal. Disconnect the control unit from the electricity supply before removing batteries.
- Contact qualified firms for disposal.

ATTENTION: operator disconnection from the mains supply must be performed by a quali ed electrician using suitable tools.

Declaration of conformity

CE

under Directive 98/37/EC, appendix II, part B (Manufacturer's Declaration of CE Conformity)

LIFE Home Integration
Via S.Pertini 3/5
31014 COLLE UMBERTO (TV)

declares that the following product:

GEUNIR DL control unit

satisfies the essential requisites established in the following directives:

- Low voltage directive 73/23/EEC and subsequent amendments,
- Electromagnetic compatibility directive 89/336/EEC and subsequent amendments,
- Radio and telecommunications equipment directive 1999/5/EC and subsequent amendments.

and satisfies the following standards:

• EN 12445:2000	Industrial, commercial and garage doors and gates – Safety in the usage of motorised doors – testing methods
• EN 12453:	Industrial, commercial and garage doors and gates – Safety in the usage of motorised doors – Requisites
• EN 60204-1:1997	Machinery safety – Electric equipment of the machine – Part 1: general rules.
• EN 60950	Information technology equipment - Safety - Part 1: General requisites
• ETSI EN 301489-3:2001	Electromagnetic compatibility for radio equipment and appliances.
• EN 300220-3:2000	Radio equipment and systems – short band devices – Technical characteristics and testing methods for radio apparatus with a frequency of 25 to 1000 MHz and powers of up to 500mW.

The Manufacturer also declares that it is not permitted for the abovementioned components to be used until such time as the system in which they are incorporated is declared conform to directive 98/37/EC.

COLLE UMBERTO _____ Name of Signor: **MICHELE RUI**

Position: **PRESIDENT**

Signature:

CLEANING THE AUTOMATION

ATTENTION:

§ **Never wash the operator with jets of water or cleaning devices using water.**
§ **Do not use corrosive substances, solvents, thinners or spirits to clean the operator.**
§ **Before cleaning switch of the power supply**

a) Automations are almost always installed outdoors and are therefore subject to climatic changes and harsh weather conditions that transport debris that may cause problems.
b) The area in which the automation is installed must be kept clean to avoid malfunctions and faults.
c) Keep the gate area clean by using a broom to brush away stones, gravel, mud etc. that deposit there.
d) Keep the opening and closure stop plates clean

ROUTINE MAINTENANCE

Every 6 months a PROFESSIONAL FITTER should repeat the following operations:

§ A series of opening and closure tests using radio controls, internal button panels and selectors, making all the automation devices function (photocells, sensitive strips, flashing light, etc).
§ Check that the gate performs the desired action.
§ Grease the gate's bearings.
§ Repeat the series of tests described for automation testing

DEMOLITION AND DISPOSAL

§ The OPTIMO operator is constructed using various materials, which implies the adoption of different disposal procedures. Refer to regulations in force in the country in which the automation is installed.
§ Contact qualified firms for disposal.

ATTENTION: the automation may only be disconnected from the mains by a qualified electrician using suitable instruments.

MANUFACTURER'S DECLARATION OF CONFORMITY

Declaration of conformity

CE

under Directive 98/37/EC, appendix II, part B (Manufacturer's Declaration of CE Conformity).

LIFE home integration
Via 1 Maggio, 37
31043 FONTANELLE (TV) – Italia
declares that the following product:

Swinging gate operator

OPTIMO 2

satisfies the essential requisites established in the following directives:

§ Machinery Directive 98/37/EC (formerly 89/392/EEC) and subsequent amendments,
§ Low voltage directive 73/23/EEC and subsequent amendments,
§ Electromagnetic compatibility directive 89/336/EEC and subsequent amendments.

and satisfies the following standards:

§ EN 12445:2000 Industrial, commercial and garage doors and gates – Safety in the usage of motorised doors – testing methods
§ EN 12453:2000 Industrial, commercial and garage doors and gates – Safety in the usage of motorised doors - Requisites.
§ EN 60204-1:1997 Machinery safety – Electric equipment of the machine – Part 1: general rules.
§ EN 60950 Information technology equipment - Safety - Part 1: General requisites
§ ETSI EN 301489-3:2001 Electromagnetic compatibility for radio equipment and appliances.
§ EN 300220-3:2000 Radio equipment and systems – short band devices – Technical characteristics and testing methods for radio apparatus with a frequency of 25 to 1000 MHz and powers of up to 500mW.

The Manufacturer also declares that it is not permitted for the abovementioned components to be used until such time as the system in which they are incorporated is declared conform to directive 98/37/EC.

Fontanelle 19.10.2004

Name: **Faustino Lucchetta**

Position: **Amministratore Delegato**

Signature

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SAMT Garage & Gate Automation