

119AU14EN

IN-GROUND OPERATOR FOR SWING GATES



INSTALLATION MANUAL

FROG J



English





WARNING! important safety instructions: READ CAREFULLY!



PREMISE

• EMPLOY THIS PRODUCT ONLY FOR THE USE FOR WHICH IT WAS EXPRESSLY MADE. ANY OTHER USE IS DANGEROUS. CAME S.P.A. IS NOT LIABLE FOR ANY DAMAGE CAUSED BY IMPROPER, WRONGFUL AND UNREASONABLE USE • KEEP THESE WARNINGS TOGETHER WITH THE INSTALLATION AND OPERATION MANUALS THAT COME WITH THE OPERATOR.

BEFORE INSTALLING

(Checking what's there: If your evaluation is negative, do not proceed before having complied with all safety requirements)

 CHECK THAT THE AUTOMATED PARTS ARE IN GOOD MECHANICAL ORDER, THAT THE OPERATOR IS LEVEL AND ALIGNED, AND THAT IT OPENS AND CLOSES PROPERLY. MAKE SURE YOU HAVE SUITABLE MECHANICAL STOPS • IF THE OPERATOR IS TO BE INSTALLED AT A HEIGHT of over $2.5~\mathrm{M}$ from the ground or other access level, make sure you have any NECESSARY PROTECTIONS AND/OR WARNINGS IN PLACE ● IF ANY PEDESTRIAN OPENINGS ARE FITTED INTO THE OPERATOR, THERE MUST ALSO BE A A SYSTEM TO BLOCK THEIR OPENING WHILE THEY ARE MOVING • MAKE SURE THAT THE OPENING AUTOMATED DOOR OR GATE CANNOT ENTRAP PEOPLE AGAINST THE FIXED PARTS OF THE OPERATOR ● DO NOT INSTALL THE OPERATOR UPSIDE DOWN OR ONTO ELEMENTS THAT COULD YIELD AND BEND. IF NECESSARY, ADD SUITABLE REINFORCEMENTS TO THE ANCHORING POINTS • DO NOT INSTALL DOOR OR GATE LEAVES ON TILTED SURFACES • MAKE SURE ANY SPRINKLER SYSTEMS CANNOT WET THE OPERATOR FROM THE GROUND UP • MAKE SURE THE TEMPERATURE RANGE SHOWN ON THE PRODUCT LITERATURE IS SUITABLE TO THE CLIMATE WHERE IT WILL BE INSTALLED ● FOLLOW ALL INSTRUCTIONS AS IMPROPER INSTALLATION MAY RESULT IN SERIOUS BODILY INJURY • IT IS IMPORTANT TO FOLLOW THESE INSTRUCTIONS FOR THE SAFETY OF PEOPLE. KEEP THESE INSTRUCTIONS.

Installing

• Suitably section off and demarcate the entire installation site to prevent UNAUTHORIZED PERSONS FROM ENTERING THE AREA, ESPECIALLY MINORS AND CHILDREN \bullet be careful when handling operators that weigh over 20~kg. If need be, use PROPER SAFETY HOISTING EQUIPMENT ● ALL OPENING COMMANDS (THAT IS, BUTTONS, KEY SWITCHES, MAGNETIC READERS, AND SO ON) MUST BE INSTALLED AT LEAST 1.85 M FROM THE PERIMETER OF THE GATE'S WORKING AREA, OR WHERE THEY CANNOT BE REACHED FROM OUTSIDE THE GATE. ALSO, ANY DIRECT COMMANDS (BUTTONS, TOUCH PANELS, AND SO ON) MUST BE INSTALLED AT LEAST $1.5~\mathrm{M}$ from the ground and must not be reachable by UNAUTHORIZED PERSONS ● ALL MAINTAINED ACTION COMMANDS, MUST BE FITTED IN PLACES FROM WHICH THE MOVING GATE LEAVES AND TRANSIT AND DRIVING AREAS ARE VISIBLE • APPLY, IF MISSING, A PERMANENT SIGN SHOWING THE POSITION OF THE RELEASE DEVICE • BEFORE DELIVERING TO THE USERS, MAKE SURE THE SYSTEM IS EN 12453 STANDARD COMPLIANT (REGARDING IMPACT FORCES), AND ALSO MAKE SURE THE SYSTEM HAS BEEN PROPERLY ADJUSTED AND THAT ANY SAFETY, PROTECTION AND MANUAL RELEASE DEVICES ARE WORKING PROPERLY • APPLY WARNING SIGNS (SUCH AS THE GATE'S PLATE) WHERE NECESSARY AND IN A VISIBLE PLACE

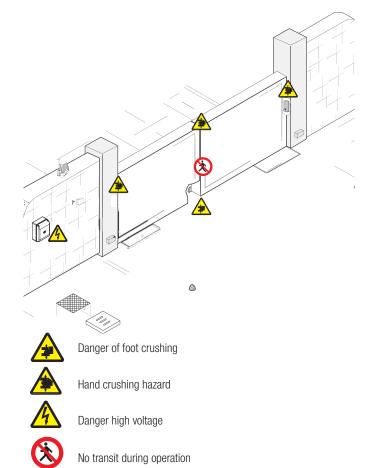
SPECIAL USER-INSTRUCTIONS AND RECOMMENDATIONS

 KEEP GATE OPERATION AREAS CLEAN AND ERFE OF ANY OBSTRUCTIONS. MAKE SURE THAT THE PHOTOCELLS ARE FREE OF ANY OVERGROWN VEGETATION AND THAT THE OPERATOR'S AREA OF OPERATION IS FREE OF ANY OBSTRUCTIONS • DO NOT ALLOW CHILDREN TO PLAY WITH FIXED COMMANDS, OR TO LOITER IN THE GATE'S MANEUVERING AREA. KEEP ANY REMOTE CONTROL TRANSMITTERS OR ANY OTHER COMMAND DEVICE AWAY FROM CHILDREN, TO PREVENT THE OPERATOR FROM BEING ACCIDENTALLY ACTIVATED. • THE APPARATUS MAY BE USED BY CHILDREN OF EIGHT YEARS AND ABOVE AND BY PHYSICALLY, MENTALLY AND SENSORIALLY CHALLENGED PEOPLE, OR EVEN ONES WITHOUT ANY EXPERIENCE, PROVIDED THIS HAPPENS UNDER CLOSE SUPERVISION OR ONCE THEY HAVE BEEN PROPERLY INSTRUCTED TO USE THE APPARATUS SAFELY AND ABOUT THE POTENTIAL HAZARDS INVOLVED. CHILDREN MUST NOT PLAY WITH THE APPARATUS. CLEANING AND MAINTENANCE BY USERS MUST NOT BE DONE BY CHILDREN, UNLESS PROPERLY SUPERVISED • FREQUENTLY CHECK THE SYSTEM FOR ANY MALFUNCTIONS OR SIGNS OF WEAR AND TEAR OR DAMAGE TO THE MOVING STRUCTURES, TO THE COMPONENT PARTS, ALL ANCHORING POINTS, INCLUDING CABLES AND ANY ACCESSIBLE CONNECTIONS. KEEP ANY HINGES, MOVING JOINTS AND SLIDE RAILS PROPERLY LUBRICATED • PERFORM FUNCTIONAL CHECKS ON THE PHOTOCELLS AND SENSITIVE SAFETY EDGES, EVERY SIX MONTHS. TO CHECK WHETHER THE PHOTOCELLS ARE WORKING, WAVE AN OBJECT IN FRONT OF THEM WHILE THE GATE IS CLOSING; IF THE OPERATOR INVERTS ITS DIRECTION OF TRAVEL OR SUDDENLY STOPS, THE PHOTOCELLS ARE WORKING PROPERLY. THIS IS THE ONLY MAINTENANCE OPERATION TO DO WITH THE POWER ON. CONSTANTLY CLEAN THE PHOTOCELLS' GLASS COVERS USING A SLIGHTLY WATER-MOISTENED CLOTH; DO NOT USE ANY SOLVENTS OR OTHER CHEMICAL PRODUCTS THAT MAY RUIN THE DEVICES ● IF REPAIRS OR MODIFICATIONS ARE REQUIRED TO THE SYSTEM, RELEASE THE OPERATOR AND DO NOT USE IT UNTIL SAFETY CONDITIONS HAVE BEEN RESTORED • CUT OFF THE POWER SUPPLY BEFORE RELEASING THE OPERATOR FOR MANUAL OPENINGS AND BEFORE ANY OTHER OPERATION, TO

PREVENT POTENTIALLY HAZARDOUS SITUATIONS. READ THE INSTRUCTIONS ● IF THE POWER SUPPLY CABLE IS DAMAGED, IT MUST BE REPLACED BY THE MANUFACTURER OR AUTHORIZED TECHNICAL ASSISTANCE SERVICE, OR IN ANY CASE, BY SIMILARLY QUALIFIED PERSONS, TO PREVENT ANY RISK ● IT IS FORBIDDEN FOR USERS TO PERFORM ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUIRED OF THEM AND WHICH ARE NOT LISTED IN THE MANUALS. FOR ANY REPAIRS, MODIFICATIONS AND ADJUSTMENTS AND FOR EXTRAORDINARY MAINTENANCE, CALL TECHNICAL ASSISTANCE ● LOG THE JOB AND CHECKS INTO THE PERIODIC MAINTENANCE LOG.

ADDITIONAL SPECIAL RECOMMENDATIONS FOR EVERYONE

• KEEP AWAY FROM HINGES AND MECHANICAL MOVING PARTS • DO NOT ENTER THE OPERATOR'S AREA OF OPERATION WHEN IT IS MOVING • DO NOT COUNTER THE OPERATOR'S MOVEMENT AS THIS COULD RESULT IN DANGEROUS SITUATIONS • ALWAYS PAY SPECIAL ATTENTION TO ANY DANGEROUS POINTS, WHICH HAVE TO BE LABELED WITH SPECIFIC PICTOGRAMS AND/OR BLACK AND YELLOW STRIPES • WHILE USING A SELECTOR SWITCH OR A COMMAND IN MAINTAINED ACTIONS, KEEP CHECKING THAT THERE ARE NO PERSONS WITHIN THE OPERATING RANGE OF ANY MOVING PARTS, UNTIL THE COMMAND IS RELEASED • THE GATE MAY MOVE AT ANY TIME AND WITHOUT WARNING • ALWAYS CUT OFF THE POWER SUPPLY BEFORE PERFORMING ANY MAINTENANCE OR CLEANING.



1 Legend of symbols



This symbol tells you to read the section with particular care.



This symbol tells you that the sections concern safety issues.

works an irreversible, gear-ratio and, endless screw and helical crown system.



This symbol tells you what to say to the end-users.

THE MEASUREMENTS, UNLESS OTHERWISE STATED, ARE IN MILLIMETERS.

2 Intended use and application

2.1 Intended use

The FROG-J operator is designed to automate swing gates used in residential or condominium settings.



🔼 The use of this product for purposes other than those described above and installation executed in a manner other than as instructed in this technical manual are prohibited.

2.2 Application

Max weight of the gate is 200 kg, max width is 1.80 m, and max gate-leaf opening arc is 105°. With swing gates it is always advisable to install and electro-lock. This is to ensure a reliable closing and to protect the gearmotor's inner workings.

4 Description

4.1 Gate Operator

This product is engineered and manufactured by CAME S.p.A. and complies with current safety regulations. Guaranteed 24 months if not tampered with.

The main component parts of the operator are a foundation casing, a release group, a gearmotor and a transmission arm. The foundation casing is made of 1.5 mm thick ABS plastic on the sides and of 4mm galvanised steel on the bottom plate. Inside is housed the release group with custom key for manually releasing the operator. The gearmotor, is made of cast aluminium in which

4.2 Technical features

FROG J

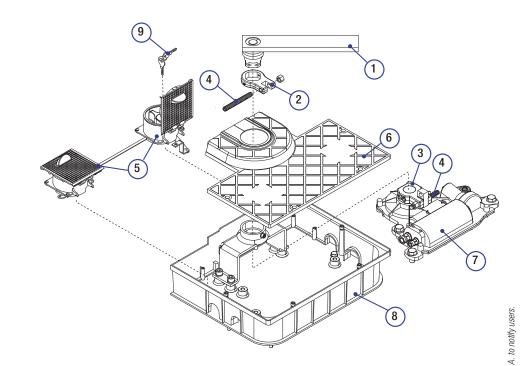
Control board power supply: 230 A.C. 50/60Hz Motor power supply: 24V D.C. 50/60Hz

Max draw: 10 A Nominal voltage: 240W Max Torque.: 260N Gear ratio: 1/1396,5 Duty cycle: Intensive use **Protection Rating: IP67**

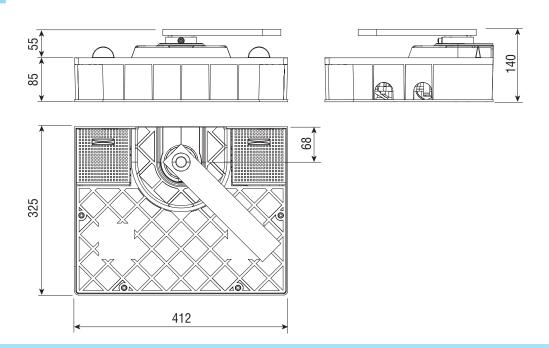
Weight: 6kg Insulation rating:

4.3 Description of parts

- 1. Gate pin-housing ring
- 2. Gearmotor pin-housing ring
- 3. Gearmotor mobile ring
- 4. Endstop adjustment set screw
- 5. Release group
- 6. Cover
- 7. Operator
- 8. In-ground case
- 9. Custom key for release group



4.4 Dimensions



5 Installation



Installation must be carried out by expert qualified personnel and in full compliance with current regulations.

5.1 Preliminary checks



Before installing, do the following:

- Make sure you have a suitable omnipolar cut-off device with contacts more than 3 mm apart, and independent (sectioned off) power supply.
- Make sure you have suitable tubing and conduits for the electrical cables to pass through and be protected against mechanical damage.
- Fit tubing to drain away any water leaks which may cause oxidation.
- Make sure the structure of the gate is sturdy, the hinges work and that the is no friction between moving and non-moving parts.
- Make sure there is a mechanical stop for opening and closing.

5.2 Tools and materials

Make sure you have all the tools and materials you will need for the installation at hand to work in total safety and compliance with the current standards and regulations. The following figure illustrates the minimum equipment needed by the installer.

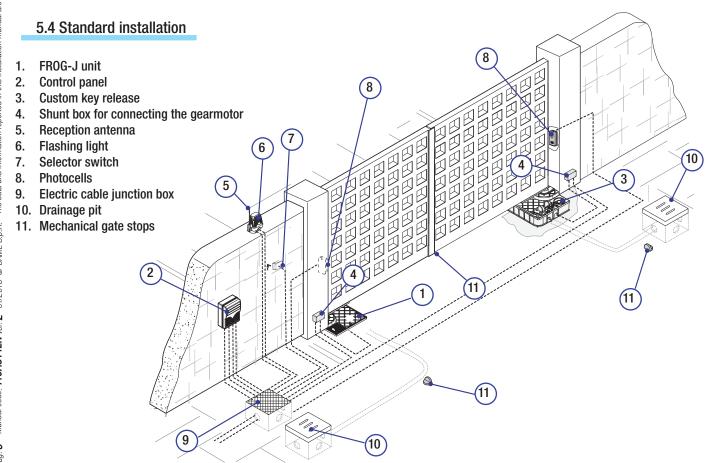


5.3 Cable list and minimum thickness

| Connections | Type of cable | Length of cable 1 < 10 m | L. of cable 10 < 20 m | L. of cable 20 < 30 m |
|-----------------------------------|--|--------------------------|--------------------------|-------------------------|
| Control panel power supply 230 3F | FROR CEI 20-22 CEI EN 50267-2-1 | 3G x 1,5 mm ² | 3G x 2,5 mm ² | 3G x 4 mm ² |
| Motor power supply 24V | | 3 x 1 mm ² | 3 x 1,5 mm ² | 3 x 2,5 mm ² |
| flashing lamp | | 2 x 0,5 mm ² | 2 x 1 mm ² | 2 x 1,5 mm ² |
| Photocell transmitters | | 2 x 0,5 mm ² | 2 x 0.5 mm ² | 2 x 0,5 mm ² |
| Photocell receivers | | 4 x 0,5 mm ² | 4 x 0,5 mm ² | 4 x 0,5 mm ² |
| Accessories power supply | | 2 x 0,5 mm ² | 2 x 0,5 mm ² | 2 x 1 mm ² |
| Control and safety devices | | 2 x 0,5 mm ² | 2 x 0,5 mm ² | 2 x 0,5 mm ² |
| Antenna connection | RG58 | max. 10 m | | |

N.B.: If the cable length differs from that specified in the table, then you must determine the proper cable diameter in the basis of the actual power draw by the connected devices and depending on the standards specified in CEI EN 60204-1.

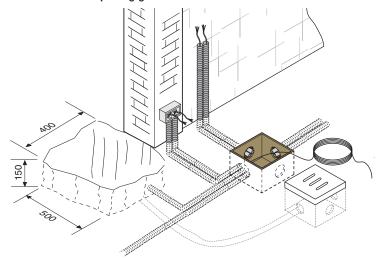
For connections that require several, sequential loads, the sizes given on the table must be re-evaluated based on actual power draw and distances. When connecting products that are not specified in this manual, please follow the documentation provided with said products.

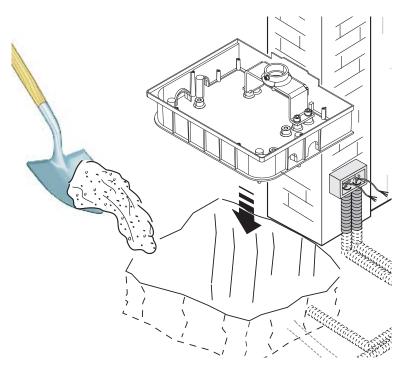


The following illustrations are only examples, given that the space available for anchoring the operator and accessories may vary from gate to gate. It is up to the installer, thus, to choose the most suitable solution.

The following drawings refer to a standard installation of an inward opening gate.

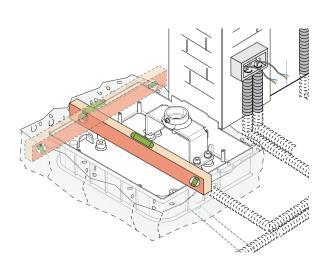
 To facilitate insertion of the in-ground casing, remove the gate and lower hinges. Dig a pit to house the foundation casing, set up the shunt boxes and corrugated plastic conduits for connections coming from the junction box and the drainage tube.
 N.B.: the number of tubes depends on the type of installation and accessories it will support.

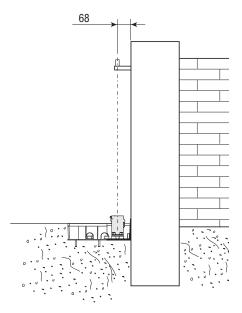




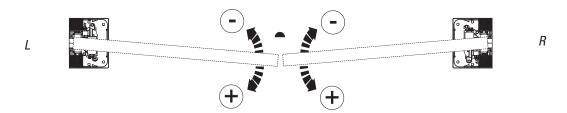
 Fill the pit with cement and sink the foundation casing, while making sure that the corrugated plastic tubes and drainage tubes pass through their apposite holes.

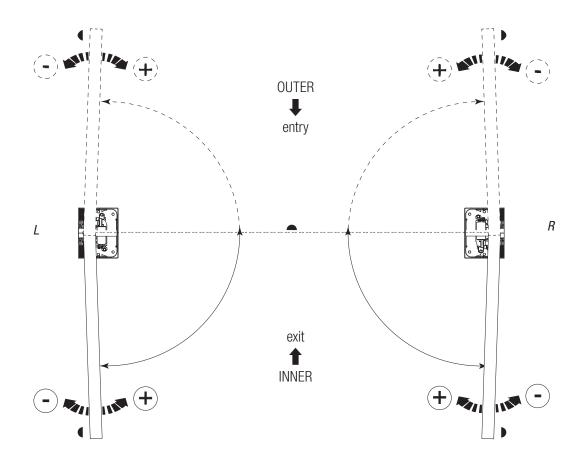
- Level the foundation casing with the ground and position the its stuffing box so that it is perfectly aligned with the gate's top hinge. Leave to set for at least 24 hours.



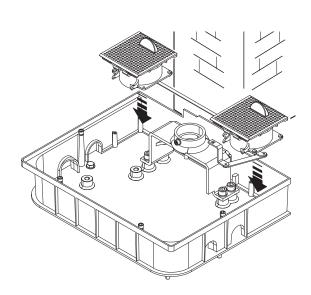


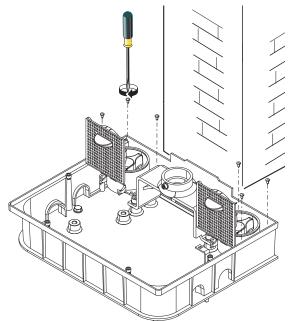
By installing the gearmotor in the same way the gate can open either inwards or outwards.



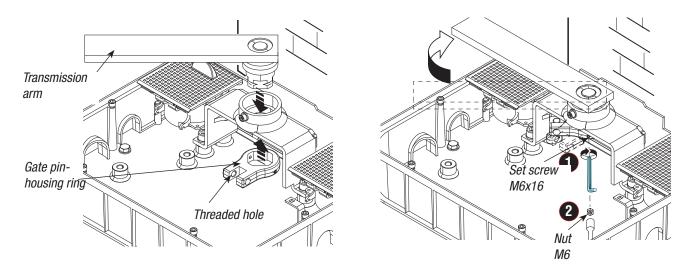


- Insert the releases into the in-ground box and anchor them using the supplied screws.

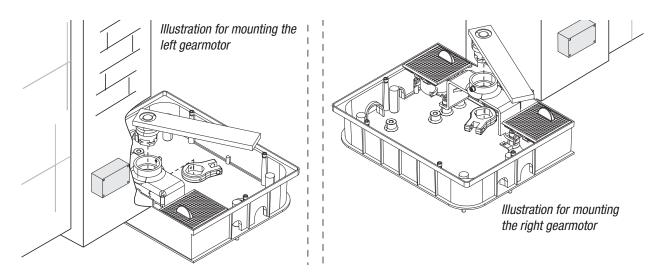




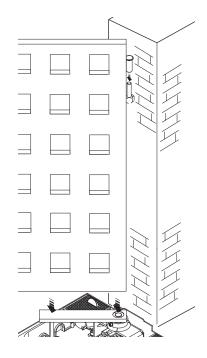
- Assemble the transmission arm with the pin-housing ring to the stuffing box, anchor them using the (M6x16) set screws and nuts. Warning: the threaded holes for inserting the (m10x90) adjustment set screw of the gate pin-housing ring is to be positioned opposite the threaded hole of the gearmotor pin-housing ring.posizionato dalla parte opposta al foro filettato del braccio mobile del motoriduttore.

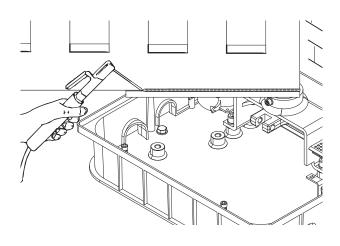


Note: for the right side gearmotor, assemble the gate pin with the pin-housing ring so that is symmetrical to the left side one, see illustration.



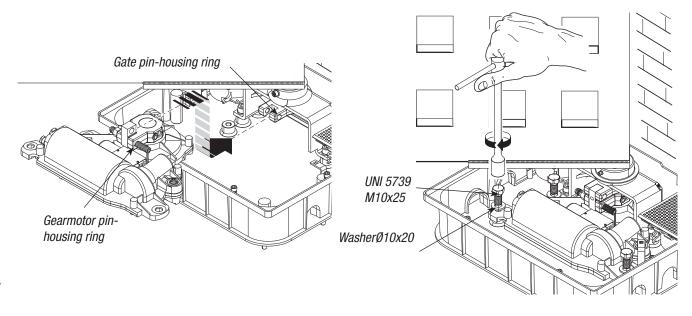
- Mount the gate leaf by only inserting the top hinge. Check that the gate leaf opens and closes easily. Bolt into place using the proper bolts or carefully weld the gate leaf to the transmission arm.



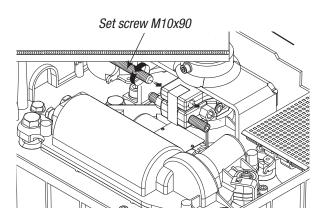


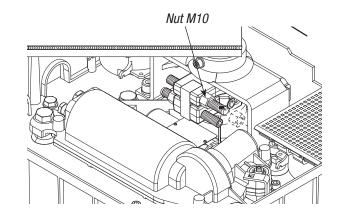
- Insert the gearmotor into the in-ground box and anchor it using bolts and washers.

N.B.: Place the gearmotor's pin-housing ring exactly below that of the gate pin and facing the same direction.

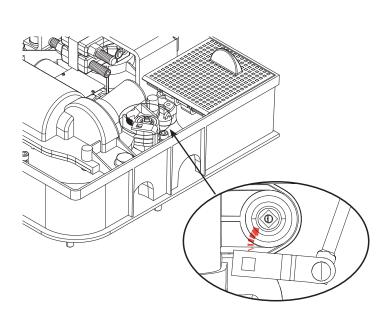


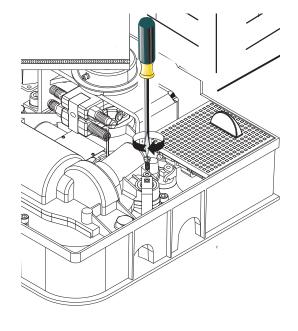
- Attach the gearmotor to the gate pin-housing ring. Turn the adjustment set screw and the nut at the opposite end — without tightening it completely.





- Set the lever of the release group to the gearmotor.

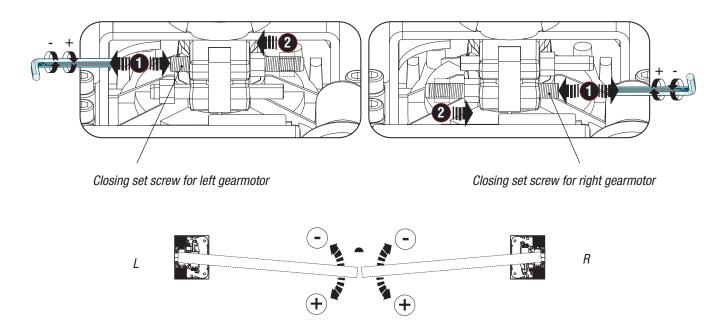




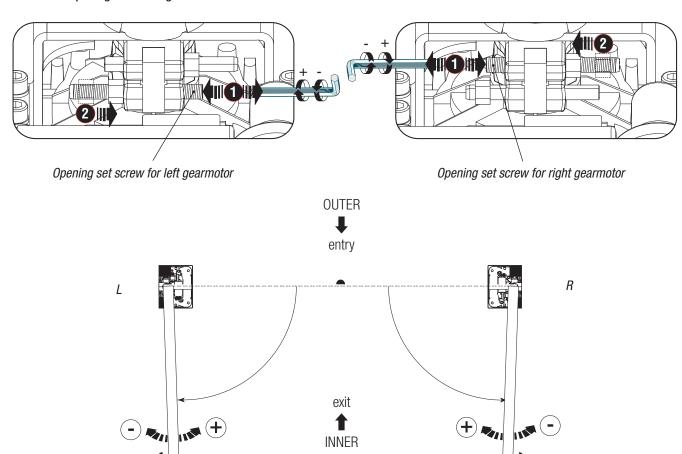
5.7 Adjusting the mechanical endstops

- Before tightening the set screws to adjust the opening and closing of the gate, release the gearmotors (see paragraph for manual

Procedure for adjusting the closing: turn the M10x90 (1) set screw clockwise or counter clockwise; lock the nut so that it is opposite the thread (2).

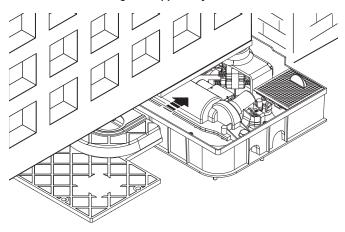


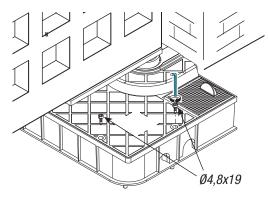
Procedure for adjusting the opening: follow the same steps used in adjusting the closing. Note: max opening arc of the gate-leaf is 105°



INNER

- After making the necessary adjustments and electrical connections (see following chapter), place the cover onto the box and screw it down using the supplied cylinder-head screws.

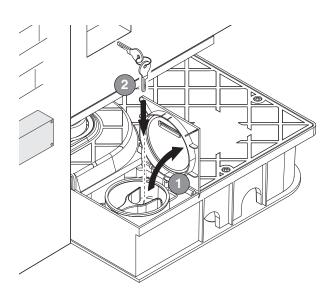


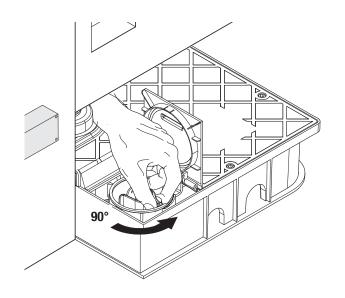


5.8 Manual release and blocking of the gearmotor

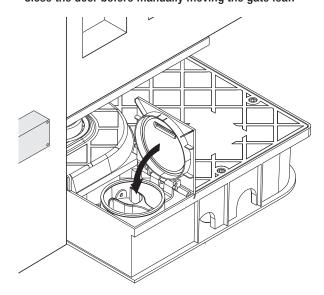
Release procedure:

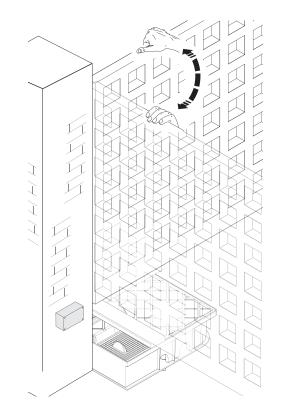
- Raise the protective cover of the blocking mechanism and insert the key. Turn the release handle 90° counter-clockwise.





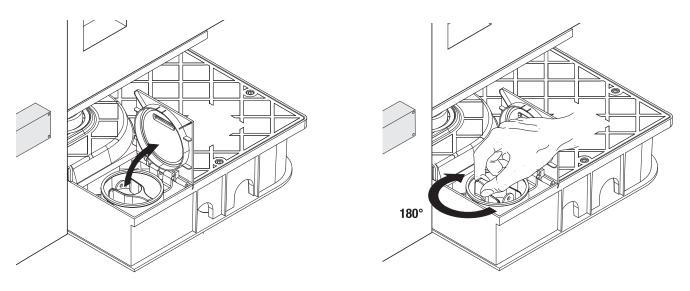
- Close the door before manually moving the gate leaf.



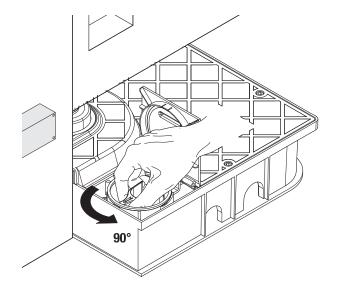


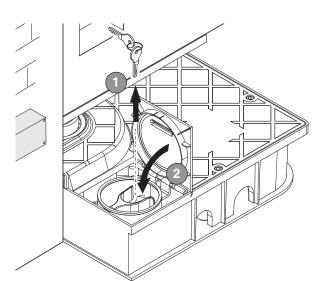
Re-blocking procedure:

- Raise the protective cover of the blocking mechanism. Turn the release handle 180° clockwise and close the small door.



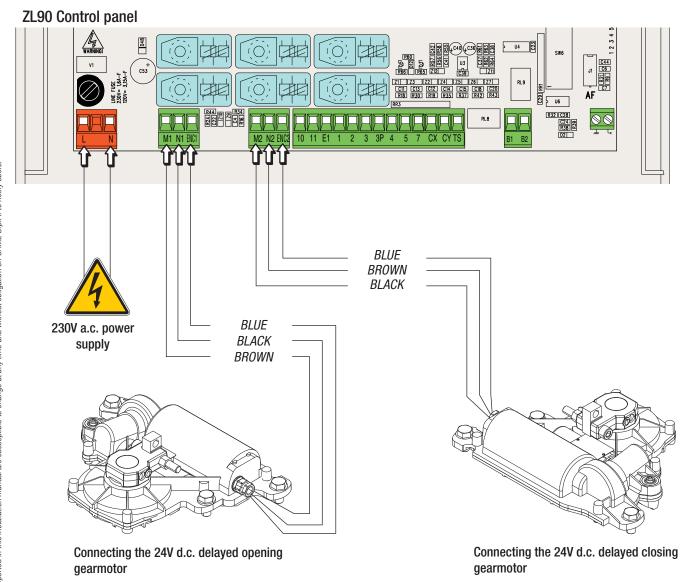
- Turn 90° counter-clockwise, remove the key and close the small door.





6 Connecting to the control panel

When making electrical connections, use the pit the shunt boxes. For further instructions concerning functions and adjustments, consult the control panels technical documentation.



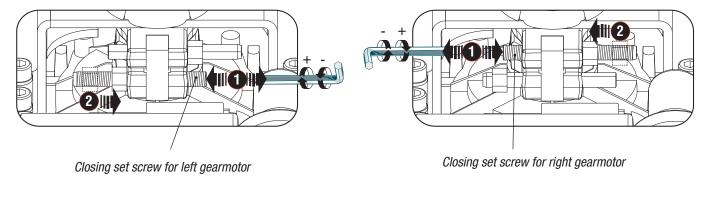
7 Installing and connections for outer opening

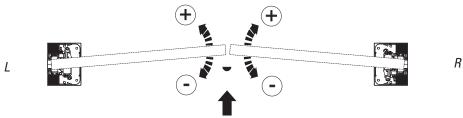
Following, are the only things that change compared to a standard installation:

7.1 Adjusting the mechanical endstops

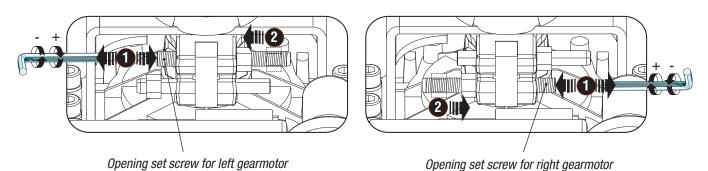
- Before tightening the set screws to adjust the opening and closing of the gate, release the gearmotors (see paragraph for manual releasing).

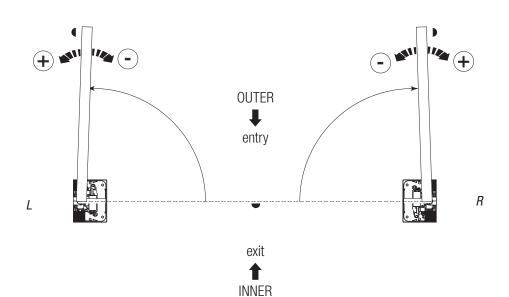
Procedure for adjusting the closing: turn the M10x90 (1) set screw clockwise or counter clockwise; lock the nut so that it is opposite the thread (2).





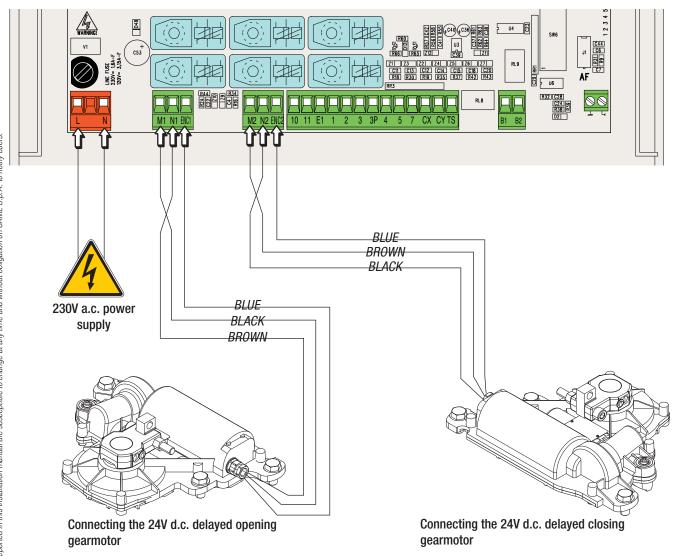
Procedure for adjusting the **opening**: follow the same steps used in adjusting the closing. Note: max opening arc of the gate-leaf is 105°





When making electrical connections, use the pit the shunt boxes. For further instructions concerning functions and adjustments, consult the control panels technical documentation.

ZL90 Control panel



8 Maintenance

Periodic maintenance

☞ Before doing any maintenance, cut off the power supply, to prevent any hazardous situations caused by accidentally activating the operator.

Periodic maintenance log kept by users (every six months)

| Date | Notes | Signature |
|------|-------|-----------|
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Extraordinary maintenance

△ The following table is for logging any extraordinary maintenance jobs, repairs and improvements performed by specialized contractors. ☐ Any extraordinary maintenance jobs must be done only by specialized technicians.

Extraordinary maintenance log

| nstallation technician stamp | Operator name | | |
|--|--|--|--|
| · | Date of intervention | | |
| | Technician signature | | |
| | Customer signature | | |
| Intervention carried out | | | |
| | | | |
| | | | |
| | | | |
| nstallation technician stamp | Operator name | | |
| motanation technician stamp | Date of intervention | | |
| | | | |
| | Technician signature Customer signature | | |
| Intervention corried out | | | |
| intervention carried out | | | |
| | | | |
| | | | |
| | | | |
| nstallation technician stamp | Operator name | | |
| | Date of intervention | | |
| | Technician signature | | |
| | Customer signature | | |
| Intervention carried out | | | |
| | | | |
| | | | |
| | | | |
| nstallation technician stamp | Operator name | | |
| nstanation technician stamp | Operator name Date of intervention | | |
| | | | |
| | Technician signature | | |
| Internation constations | Customer signature | | |
| Intervention carried out | | | |
| | | | |
| | | | |
| | | | |
| Installation technician stamp | Operator name | | |
| nstallation technician stamp | Operator name | | |
| nstallation technician stamp | Date of intervention | | |
| nstallation technician stamp | | | |
| nstallation technician stamp | Date of intervention | | |
| nstallation technician stamp Intervention carried out | Date of intervention Technician signature Customer signature | | |
| | Date of intervention Technician signature Customer signature | | |

| MALFUNCTIONS | POSSIBLE CAUSES | CHECK AND REMEDIES |
|-----------------------------------|---|---|
| The gate will not open nor close | There is no power The gearmotor is released The remote control's batteries are run down The transmitter is broken The stop button is either stuck or broken The opening/closing button or the key selector are stuck | Check that the power is up Call assistance Replace batteries Call assistance Call assistance Call assistance |
| The gate opens but will not close | The photocells are engaged | Check that photocells are clean and in good working orderCall assistance |
| The flasher does not work | The bulb is burnt | Call assistance |
| | | |

9 Phasing out and disposal

CAME S.p.A. employs a UNI EN ISO 14001 certified and compliant environmental protection system at its plants, to ensure that environmental safeguarding.

We ask you to keep protecting the environment, as CAME deems it to be one of the fundamental points of its market operations strategies, by simply following these brief guidelines when disposing:

DISPOSING THE PACKING MATERIALS

The packing components (cardboard, plastic, etc.) are solid urban waste and may be disposed of without any particular difficulty, by simply separating them so that they can be recycled.

Before actions it is always advisable to check the pertinent legislation where installation will take place.

DO NOT DISPOSE OF IN NATURE!

DISPOSING OF THE PRODUCT

Our products are made using different types of materials. The majority of them (aluminium, plastic, iron, electric cables) can be considered to be solid urban waste. They may be recycled at authorised firms.

Other components (electrical circuit board, remote control batteries etc.) may contain hazardous waste.

They must, thus, be removed and turned in to licensed firms for their disposal.

Before acting always check the local laws on the matter.

DO NOT DISPOSE OF IN NATURE!

DECLARATION OF CONFORMITY

Declaration $\zeta \in CAME S.p.A.$ declares that this device conforms to the essential, pertinent requirements provided by directives 2006/42/CE and 2014/30/UE.

An original copy is available on request.



IT • Per ogni ulteriore informazione su azienda, prodotti e assistenza nella vostra lingua:

EN • For any further information on company, products and assistance in your language:

FR • Pour toute autre information sur la société, les produits et l'assistance dans votre langue :

DE • Weitere Infos über Unternehmen, Produkte und Kundendienst bei:

ES • Por cualquier información sobre la empresa, los productos y asistencia en su idioma:

NL • Voor meer informatie over het bedrijf, de producten en hulp in uw eigen taal:

PT • Para toda e qualquer informação acerca da empresa, de produtos e assistência técnica, em sua língua:

PL • Wszystkie inne informacje dotyczące firmy, produktów oraz usług i pomocy technicznej w Waszym języku znajdują się na stronie:

RU • Для получения дополнительной информации о компании, продукции и сервисной поддержке на вашем языке:

HU • A vállalatra, termékeire és a műszaki szervizre vonatkozó minden további információért az Ön nyelvén:

HR • Za sve dodatne informacije o poduzeću, proizvodima i tehničkoj podršci na vašem jeziku:

UK • Для отримання будь-якої іншої інформації про компанію, продукцію та технічну підтримку:





The data and information reported in this installation manual are susceptible to change at any time and without obligation on CAME S.p.A. to notify users.

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