CAME

CAME.COM

Operator
for swing gates

FA02030-EN

A3024 - A3124
A5024 - A5124

INSTALLATION MANUAL

EN English

WARNING!
important safety instructions:
READ CAREFULLY!

Introduction

• Use this product only for the specific purpose for which it is designed. Any other use is therefore improper and dangerous. CAME S.p.A. is not liable for any damage due to improper, erroneous and unreasonable use • Keep these warnings together with the installation and users' manual for the automation system.

Before installing

(check what's there: if you find something wrong, proceed only after correcting the problem so the equipment is safe to use)

• Check that the part you want to automate is in good mechanical condition, that it is balanced and aligned, and that it opens and closes properly. Make sure you have suitable mechanical stops • If the operator will be installed less than 2.5 m from the floor or from any other access level, check whether you need additional protections and/ or warnings • With pedestrian doors framed into the doors that will be automated, a system must be in place to block their opening during movement • Make sure the opening of the automated door leaf does not cause any trapping situations involving any surrounding fixed parts • Do not install the operator upside down or on any elements that may bend. If necessary, add suitable reinforcements at the fastening points • Do not install on sloping ground (only install on flat ground) • Check that any watering devices cannot wet the gearmotor from the bottom upwards.

Installation

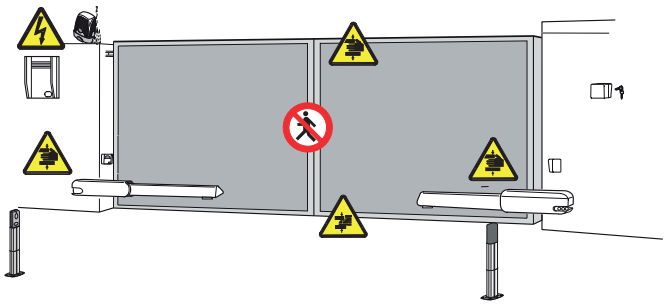
• Properly signal and demarcate the entire site prevent any careless people from entering the works area • Be careful when handling operators that weigh more than 20 kg (see installation manual. If such is the case, make sure you have proper hoisting equipment. All opening commands (buttons, key selectors, magnetic card readers, and so on) must be installed at least 1.85 M from the gate's area of movement, or so that they are unreachable from the outside. Moreover, the direct commands (from buttons, swipe cards, and so on) must be installed 1.5 m high off the ground and must not be reachable by the public • All "hold-to-run" commands must be placed where the operating gate leaves and transit areas are completely visible. • Apply a permanent label that shows the position of the release device • Before turning over the installation to the user, check that the system conforms to standards EN 12453 and EN12445 (impact testing), making sure the device has been properly adjusted and that the safety and protection and release devices function properly • Where necessary apply the Warning Signs so that they are clearly visible (e.g. the gate plate)

Instructions and special recommendations for users

• Keep the barrier's areas of operations unobstructed. Check that the photocells are free of any vegetation blocking them, and that there are no obstacles to the free movement of the operator. Do not allow children to play with the fixed command devices, or in the barrier's area of operation. Keep transmitters and any other command devices away from children, to prevent the operator from being activated by mistake • Frequently check the system, to scan for any anomalies or wear and tear in the moving structures, the operator's components, all fastening points and devices, the cables and accessible connections. Keep any jointed parts like hinges lubricated and clean of debris and the guide-sleds free of any friction • Perform functional checks to the photocells and sensitive edges every six months. To check that the photocells work properly, wave an object in front of them during closing; if the operator inverts its direction of travel or blocks movement, then the photocells are working properly. This is the only maintenance job that can be done to the gate when it is powered up. Ensure proper cleaning of the glass on the photocells (use a slightly damp cloth); do not use any solvents or other chemical products that may ruin the devices) • Should any repairs or changes to the system settings be needed, release the operator and refrain from using it until safety conditions have been restored • Cut the power off before releasing the operator for manual opening, to avoid any hazardous situations. Check instructions • It is FORBIDDEN for users to perform ANY OPERATIONS THAT ARE NOT EXPRESSLY REQUESTED OF SAID USERS in the manuals. Any repairs, adjustments or extra-ordinary maintenance, EXCLUSIVELY CALL TECHNICAL ASSISTANCE • Log any service jobs onto the periodic maintenance journal.

Special instructions and recommendations for everyone

• Keep away from the hinges and any moving mechanical parts • Stay out of the operating range of the operator while it is moving • Do not oppose the movement of the operator as this may result in danger • Always be careful around the dangerous parts, which must be properly indicated with warning signs and black and yellow stripes • When using a selector switch or a maintained-action mode command, keep checking that no persons come within the operating range of the moving parts, until the command is released • The gate may move at any moment without warning. Always cut off the main electric power supply before performing any cleaning or maintenance.



Hand crushing hazard

Danger high voltage

Danger of crushing feet

No transit during operation

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.

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

2 Intended use and restrictions

2.1 Intended use

The ATI 24V gearmotor is specifically engineered to automate residential and condominium swing gates, even under intensive use.

2.2 Restrictions

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.

4 Description

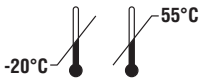
4.1 Gearmotor

This product is engineered and manufactured by CAME S.p.A. and complies with current safety regulations.
The gearmotor is composed of two, cast aluminium half shells inside of which rest the gearmotor and endstops - with electro blocking - and an endless screw, epicycloidal gear reduction system.

4.2 Technical features

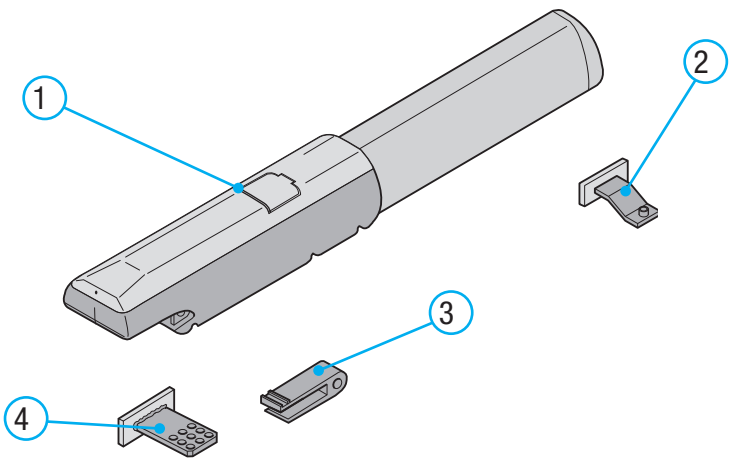
Control board power supply: 230 A.C. 50/60Hz
Motor power supply: 24V D.C. 50/60Hz
Max draw.: 10A
Power: 120W
Opening time (90°): adjustable

Gear ratio: 1/36
Duty Cycle: Intensive use
Protection Rating: IP44
Weight: 10 kg
Operating temperature:



4.3 Description of parts

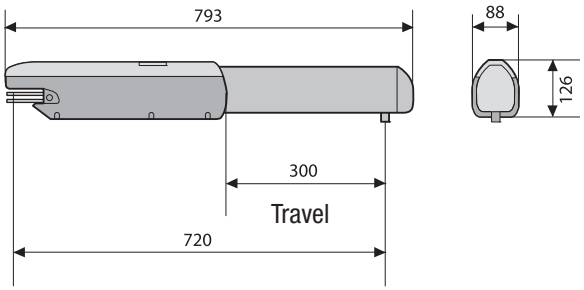
1) Operator
2) Front bracket
3) Back swivel-joint
4) Back bracket



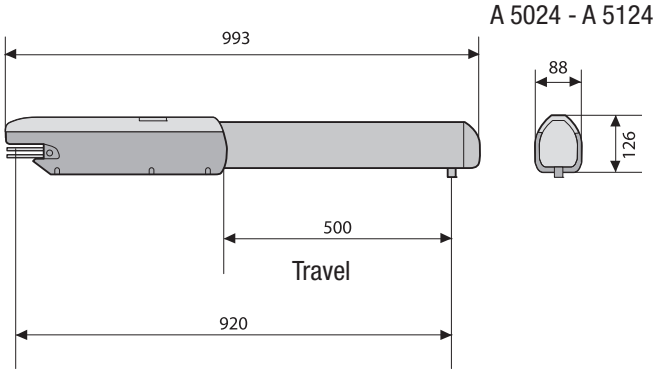
4.4 Overall dimensions

Measurements in mm

A 3024 - A 3124



A 5024 - A 5124



Gate leaf width	Gate leaf weight
m	kg
2.00	800
2.50	600
3.00	400

For swing gates, installing an electric lock is always recommended. This is to ensure the leaves close reliably and to protect the gearmotor parts. It is also recommended for irreversible gearmotors – and is mandatory where the leaves are more than 2.5 m in length. For reversible gearmotors, electric locks are required to ensure the leaves close. The installer is responsible for installing an electric lock, taking into account the size and type of leaf (e.g. panelled) and the installation area (e.g. windy location).

Gate leaf width	Gate leaf weight
m	kg
2.00	1000
2.50	800
3.00	600
4.00	500
5.00	400

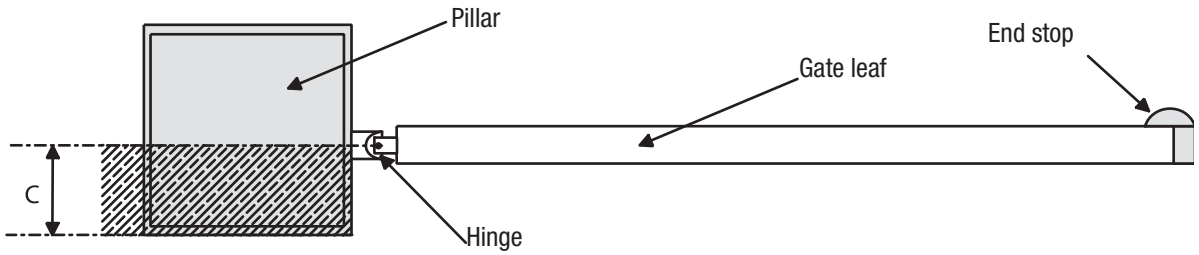
5 Installation

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

5.1 Preliminary checks

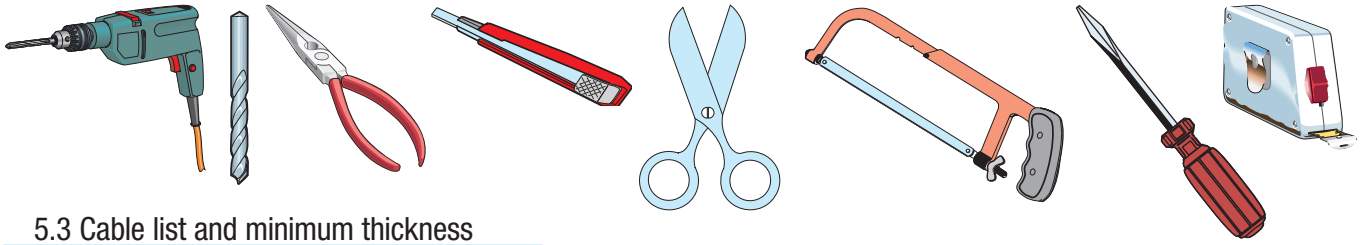
Before installing, do the following:

- Make sure the structure of the gate is sturdy, the hinges work and that the is no friction between moving and non-moving parts;
- That measurement C is not greater than the value shown in Tab. 3, p. 4. In this case you need to work on the pillar until said measurement is obtained;
- Make sure the path of the electrical cables complies with the command and safety instructions;
- That there is a (soundly secured to the ground) mechanical stop to prevent the gate leaf/gearmotor from over extending.
- ⏚ Make sure that any connections inside the case (that provide continuance to the protective circuit) be fitted with extra insulation as compared to the other conductive parts inside;
- Make sure you have suitable tubing and conduits for the electrical cables to pass through and be protected against mechanical damage.



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.

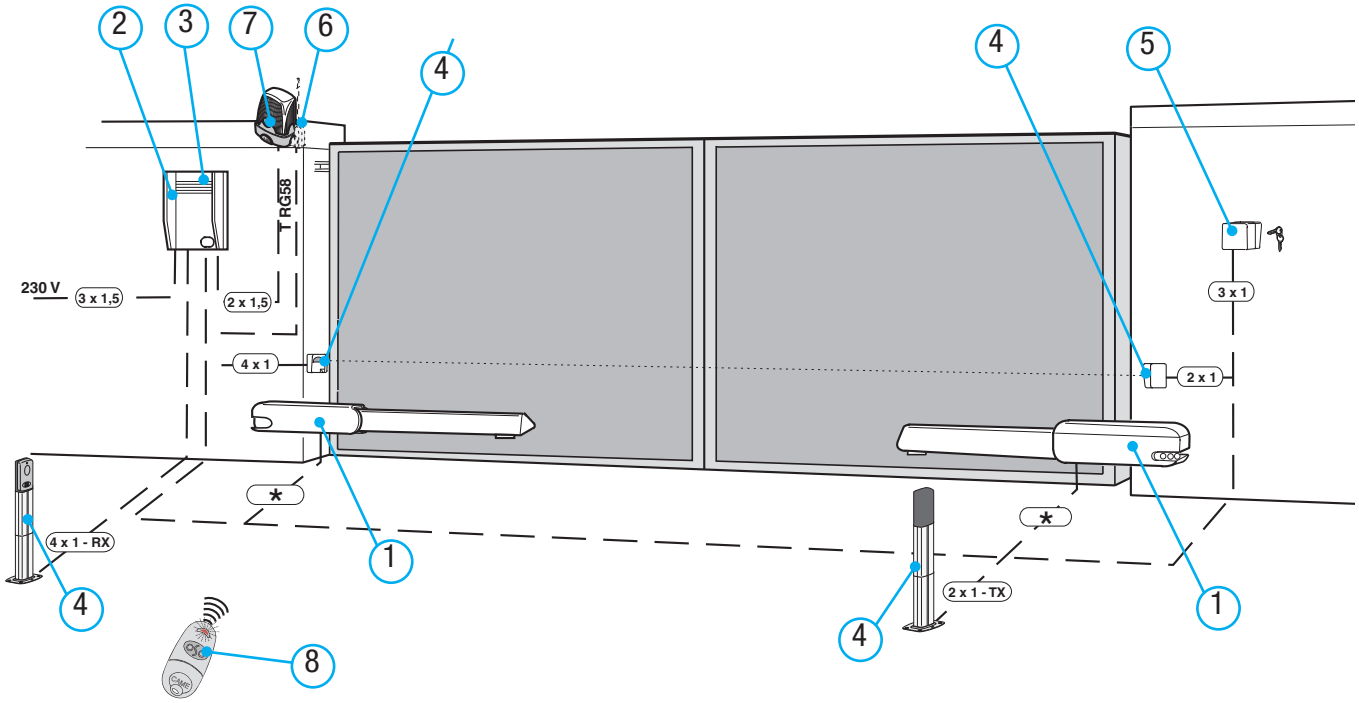


5.3 Cable list and minimum thickness

Connections	Type of cable	Length of cable 1 < 10 m	Length of cable 10 < 20 m	Length of cable 20 < 30 m
Control panel power supply 230V	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
Flashing light 24V		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
24V Accessories power supply		2 x 0,5 mm^2	2 x 0,5 mm^2	2 x 1 mm^2
Command buttons		2 x 0,5 mm^2	2 x 0,5 mm^2	2 x 0,5 mm^2
Endstop		3 x 0,5 mm^2	3 x 1 mm^2	3 x 1,5 mm^2
Encoder plug	2402C 22AWG	max. 30 m		
Antenna connection	RG58	max. 50 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.

5.4 Standard installation



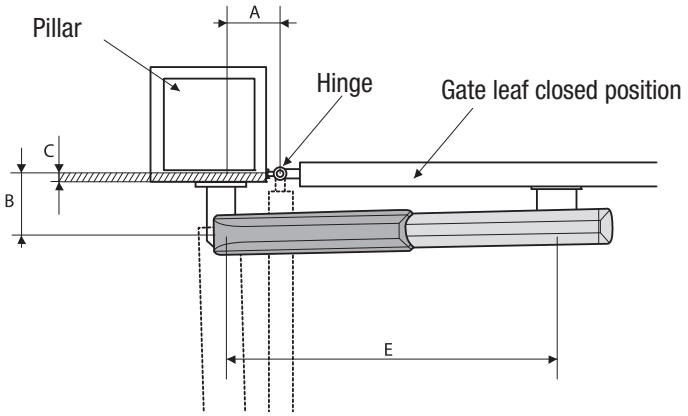
Wiring for microswitches:
* 5 x 1mm^2
Power wires to motor:
2 x 1,5 mm^2 up to 20 m;
2 x 2,5 mm^2 up to 30 m.

1) Operator
2) Control panel
3) Radio receiver
4) Photocells
5) Selector switch
6) Antenna
7) Flashing light
8) Transmitter

5.5 Mounting

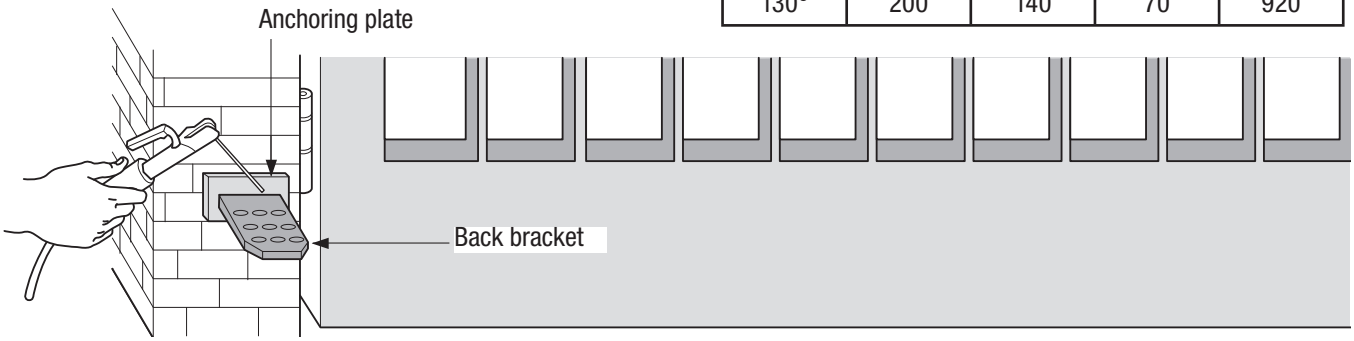
⚠ The following are just example applications, given that the space for securing the operator and accessories may vary depending on the dimensions. It is thus up to the installer to choose the most suitable solution.

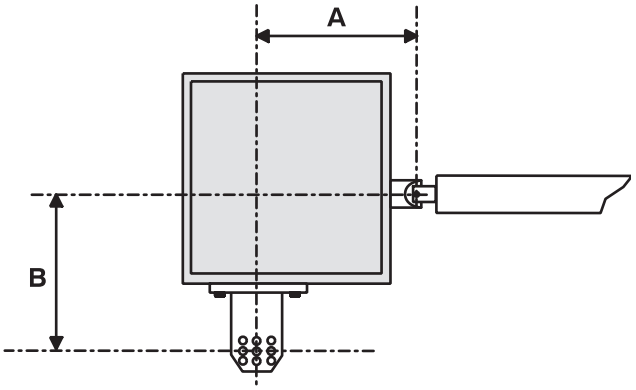
Tab. 3

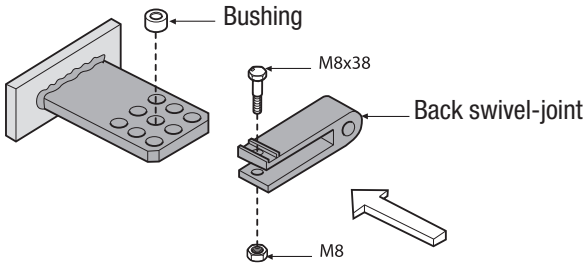


Gate leaves up to 3 m				
Opening	A mm	B mm	C max mm	E mm
90°	130	130	60	720
120°	130	110	50	720

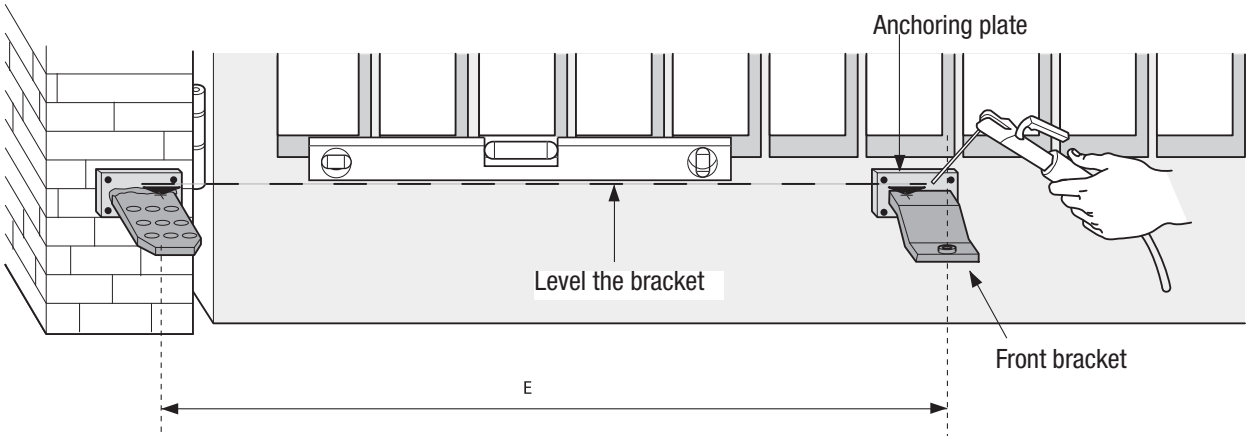
Gate leaf up to 5 m				
Opening	A mm	B mm	C max mm	E mm
90°	200	200	120	920
130°	200	140	70	920



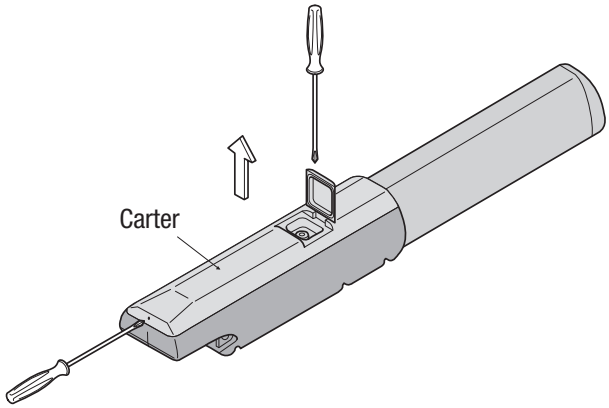




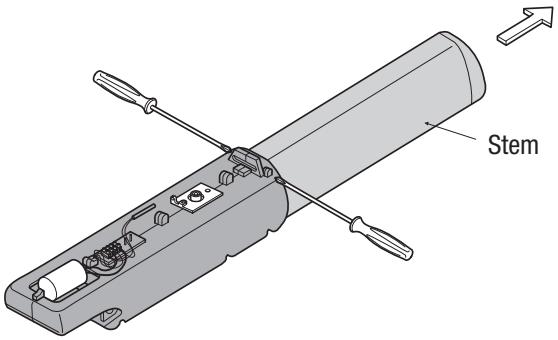
Apply the anchoring plate to the pillar using the back bracket (fig. 1) making sure the A and B measurements are right (Tab. 3) between the hinge axis and central bore hole on the bracket. The back bracket has several other holes for changing the opening angle of the gate.
N.B.: increasing the B measurement decreases the opening angle resulting in slower peripheral speed and greater motor thrust on the gate leaf. Increasing measurement A increases the opening angle resulting in greater peripheral speed and reduced motor thrust on the gate leaf.



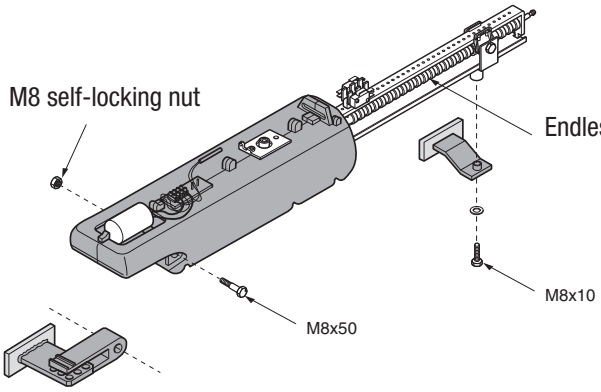
With the gate closed apply the anchoring plate to the gate leaf, making sure that the front bracket is lined up horizontally with the back bracket and ensuring that measurement E is met.



Unscrew the two securing screws and remove the carter.



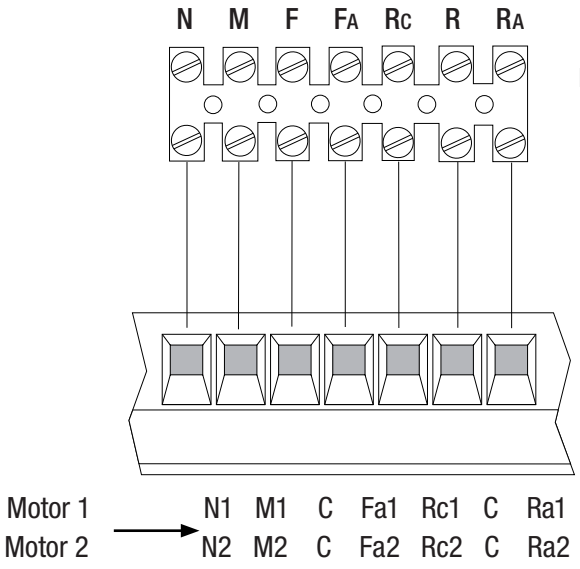
Unscrew the two securing screws and remove the stem.



Begin mounting the gearmotor to the two brackets.

N.B.: we suggest lubricating (using neutral grease) the endless screw and the bushing upon installation.

5.6 Electrical connections to the ZL19 control panel



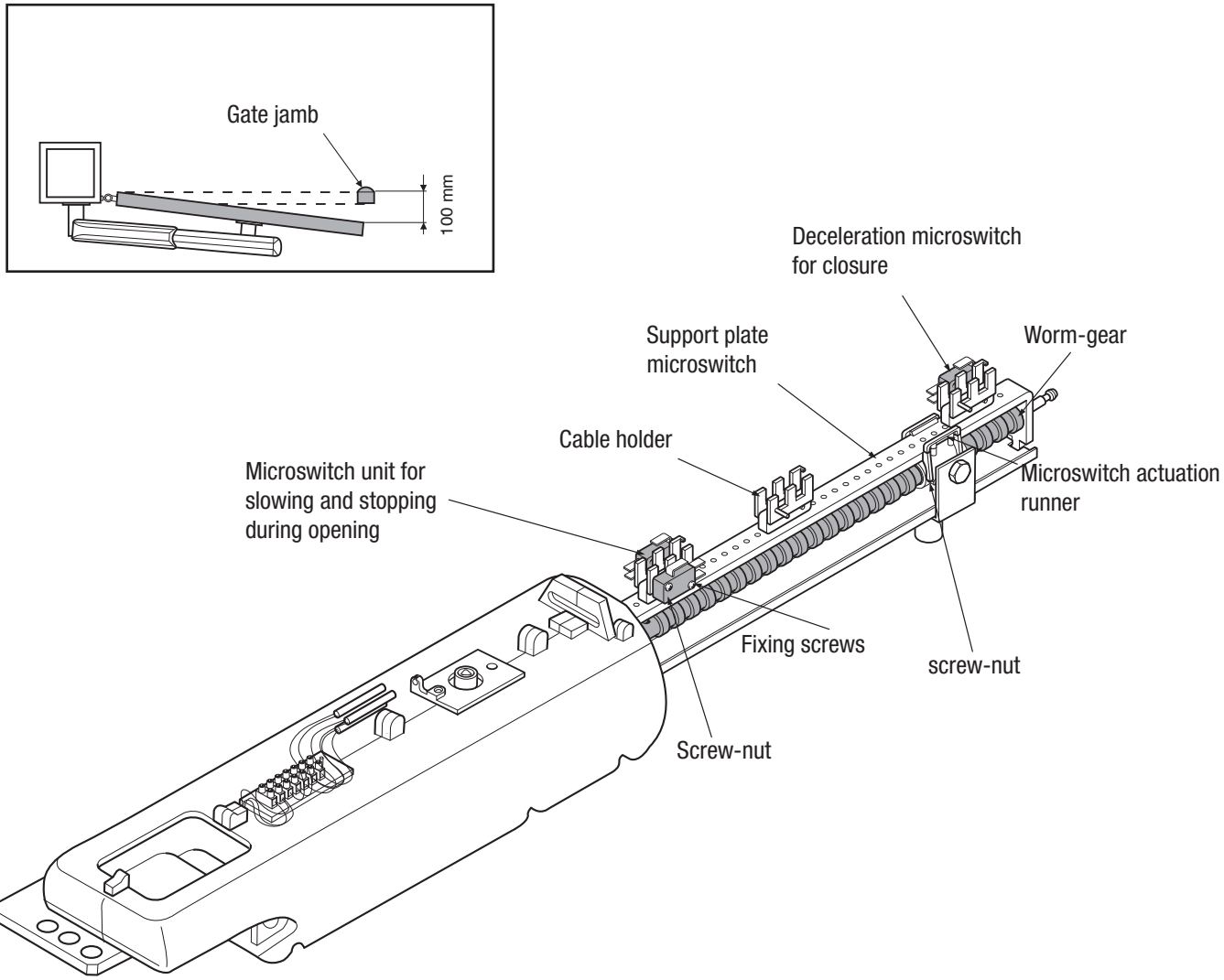
N - M
Connection to motor

F - Fa
Microswitch-limit switch of motor on aperture

R - Rc
Microswitch-deceleration of motor on closure

R - Ra
Microswitch-deceleration of motor in aperture

5.7 Adjusting the deceleration microswitches for opening and closure



DURING OPENING:

Release the gearmotor and move the wing to the maximum desired open position, unscrew the fixing screws of the deceleration microswitches unit and the unit that controls the stop during opening.

Slide the microswitches unit along the microswitch-support rod until it is inserted by contact on the microswitch unit actuation runner.

Fix the microswitches unit by tightening the respective screws.

DURING CLOSURE:

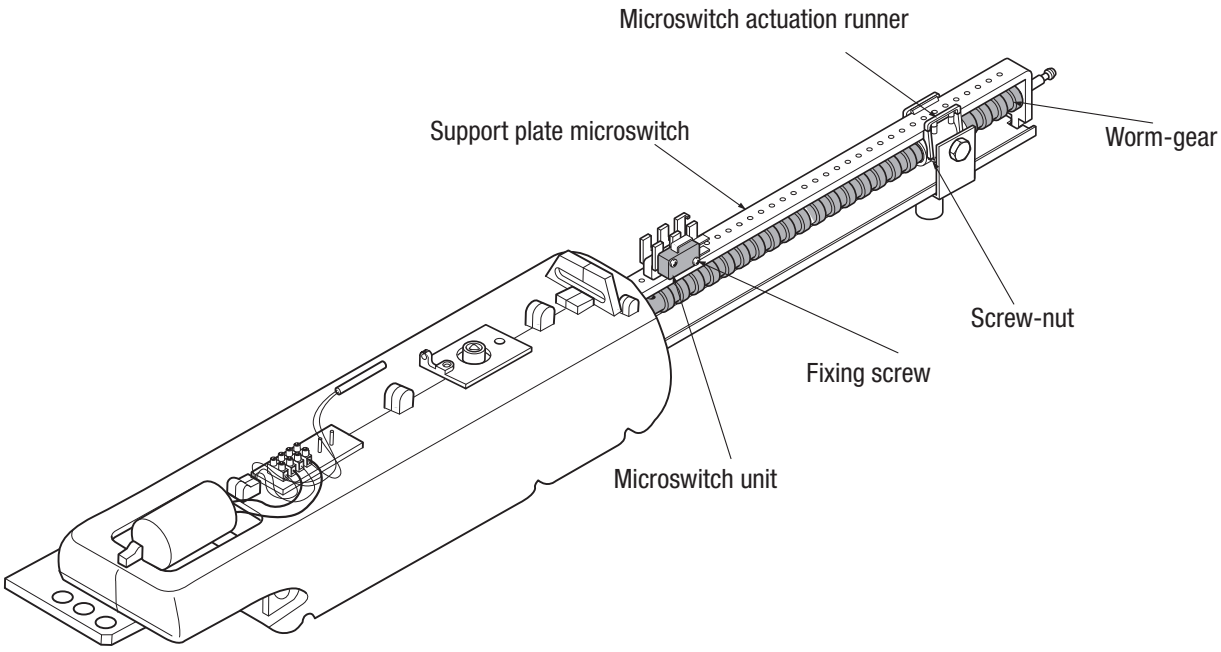
Move the wing to no closer than 100 mm from the end stop during closure (detail B).

Unscrew the fixing screws of the group deceleration microswitch during closure.

Slide the microswitch unit along the microswitch-support rod until it is inserted by contact on the microswitch unit actuation runner.

Fix the microswitch unit by tightening the respective screws.

5.8 Adjusting the STOP microswitch for the opening movement

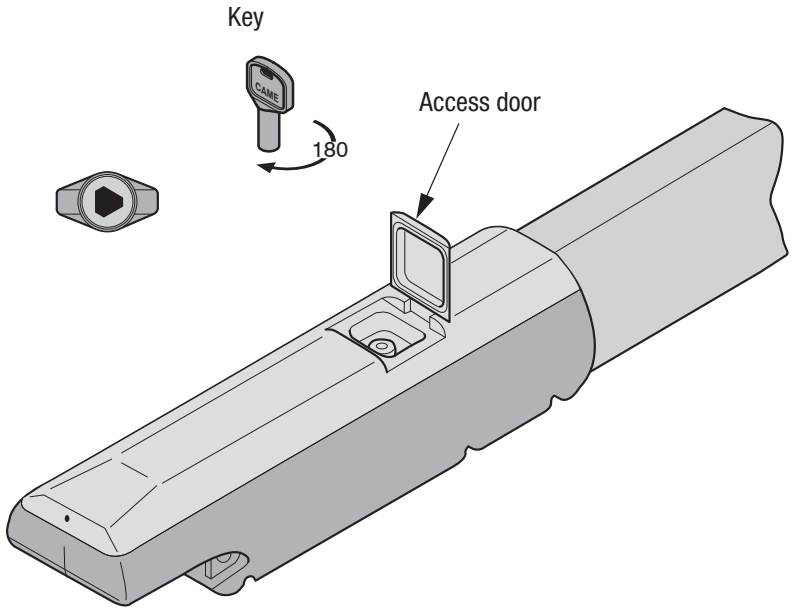


Release the gearmotor and move the door to the maximum desired open position.Loosen the fixing screws of the microswitch unit.

Slide the microswitch unit along the microswitch-support rod until it is inserted by contact on the microswitch unit actuation runner.

Fix the microswitch by tightening the respective screws.

5.9 Personalized key release



RELEASING THE UNIT:

Perform this step with the motor stopped:

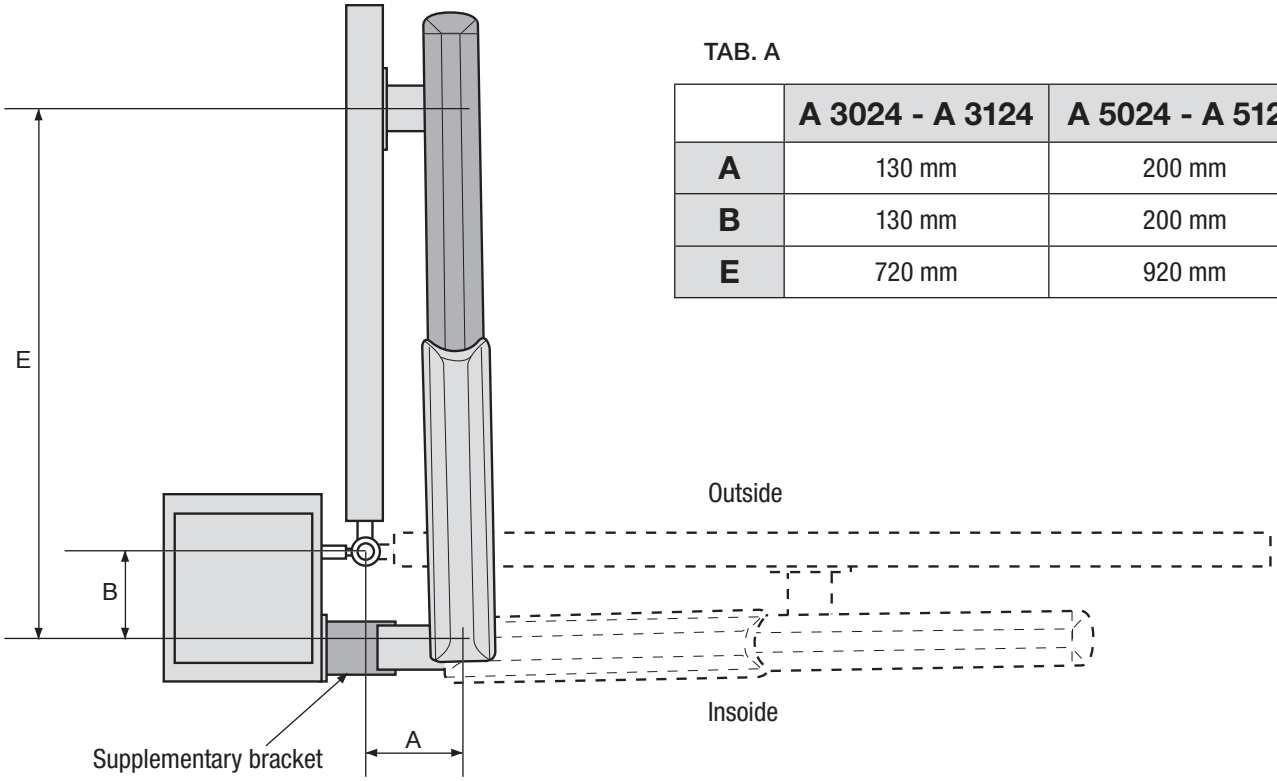
1) raise the access door;

2) insert and turn the key. The gate will be released immediately;

3) push or pull the gate manually.

To re-lock the gate, simply insert and turn the key.

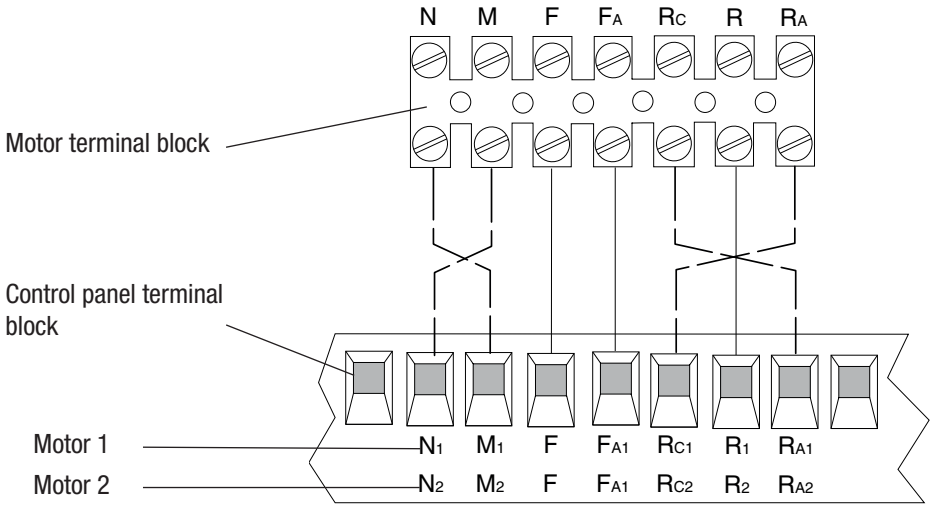
5.10 Application for outside openings



TAB. A

	A 3024 - A 3124	A 5024 - A 5124
A	130 mm	200 mm
B	130 mm	200 mm
E	720 mm	920 mm

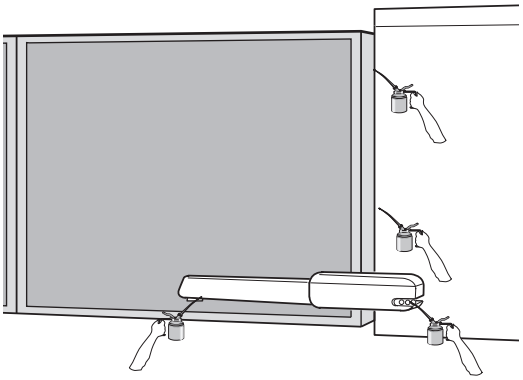
- Measure the lenght of “A” and “B” (see Tab 4).
- Attach the rear bracket together with a supplementary bracket and fasten both to the column.
- Open the gate (maximum 90°) and measure “E” (see Tab 4), then fasten the front bracket to the gate.
- Make the electrical connections as shown in the figure.
- Re-position and adjust the opening micro-switch.



7 Manutenzione

7.1 Manutenzione periodica

☞ Before any maintenance, disconnect power to prevent any possible dangerous situations that can be caused by accidental movement of the operator.
Lubricate the pivot points with grease whenever abnormal vibrations or squeaking occurs, as shown in the drawing.



7.2 Trouble shooting

MALFUNCTIONS	POSSIBLE CAUSES	CHECK AND REMEDIES
The gate will not open nor close	• There is no power • The gearmotor is released • The transmitter'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 order • Call assistance
The flasher does not work	• The bulb is burnt	• Call assistance

8 Maintenance

Periodic maintenance log for end-user (every 6 moths)

Date	Notes	Signature

8.1 Extra-ordinary maintenance

⚠ The following table serves to note down any extraordinary maintenance, repairs or improvements performed by specialised firms.

N.B.: Any extraordinary maintenance must be performed by specialised technicians.

Extra-ordinary maintenance log

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____ _	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____ _____ _	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____	

Installer's stamp	Operator name
	Date of job
	Technician's signature
	Requester's signature
Job performed _____	

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!

Reference regulations

The product complies to the reference regulations in effect.

The contents of this manual may change, at any time, and without notice.

CAME

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