

# Operator for swing gates

FA01160-EN



**A3000A**  
**A5000A**

INSTALLATION MANUAL



**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)

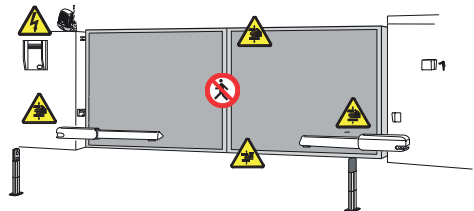
**Instructions and special recommendations for users**

• 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 what to say to the end-users.



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



This symbol tells you that the sections concern safety issues.

## 2 Intended use and restrictions

### 2.1 Intended use

The ATI 230V gearmotor is designed to power residential and condominium swing gates.



Any use, other than that described above or installations performed in ways other than those described herein, are forbidden.

### 2.2 Restrictions

Gate leaf width m	Gate leaf weight kg	
	<b>A3000A</b>	<b>A5000A</b>
2.00	800	1000
2.50	600	800
3.00	400	600
4.00	/	500
5.00	/	400

We suggest you always fit an electrolock onto swing gates for a more reliable closure.

Fitting electrolocks onto reversible operators makes for anti-intrusion security.

You must install electrolocks onto irreversible operators with gate leaves exceeding 4 m.

## 3 Reference Standards

For its quality processes management Came S.p.A. is ISO 9001 certified, and for its environmental management it is ISO 14001 certified.

This product complies with the following standards: see declaration of conformity.

## 4 Description

### 4.1 Gearmotor

This product is engineered and built by CAME S.p.A. in compliance with applicable safety standards.

The electro-lock fitted irreversible gearmotor, is made up of two cast-aluminium half shells containing a gearmotor with epicycloid gearbox system.

A double, electromechanical limit-switch system is fitted above the gate-movement worm-screw

### 4.2 Technical features

Motor power supply: 230V A.C. 50/60Hz

Max draw.: 1,2A

Power: 150W

Opening time (90°):

A3000A = 19 s

A5000A = 32 s

Gear ratio: 1/36

Thrust: 400 ÷ 3000N

Duty cycle: 50%

Condenser: 10µF

Protection rating: IP44

Weight:

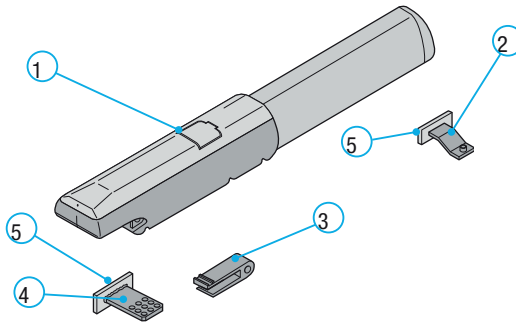
A3000A = 10 kg

A5000A = 11 kg



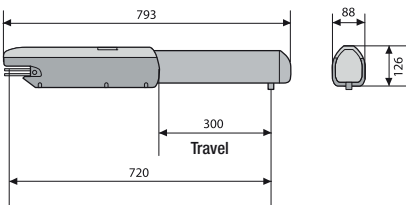
### 4.3 Description of parts

- 1) Gearmotor
- 2) Front bracket
- 3) Back swivel-joint
- 4) Back bracket
- 5) Anchoring plate

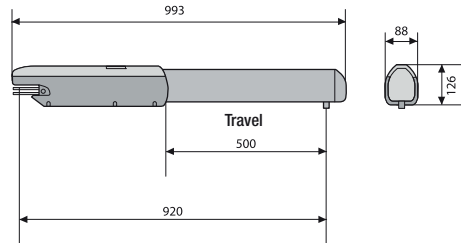


### 4.4 Overall dimensions

A3000A




A5000A

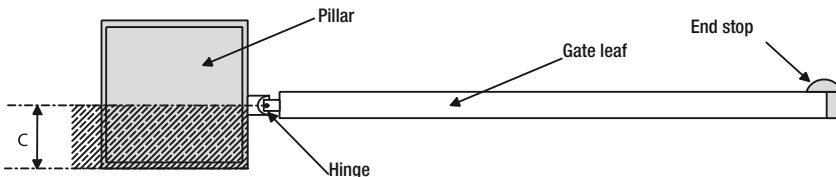


## 5 Installation

### 5.1 Preliminary checks

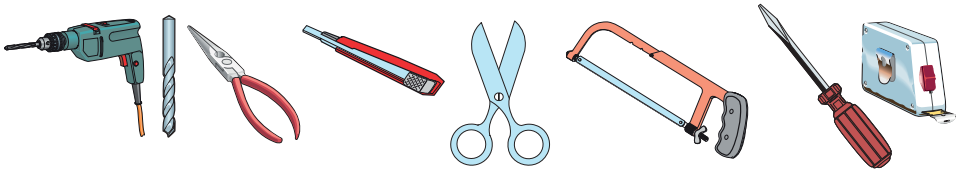
**!** Before installing, do the following:

- make sure the structure of the gate is sturdy, the hinges work and that there is no friction between moving parts and non-moving parts;
- measurement C cannot be greater than the value shown in Tab. 3, p. 5. In this case you need to work on the pillar until said measurement is obtained;
- the path of the electrical cables must comply with the command and safety instructions;
- there must be a soundly secured to the ground mechanical stop to prevent the gate leaf/gearmotor from over extending.
-  Any connections inside the case (that provide continuance to the protective circuit) must be fitted with extra insulation as compared to the other conductive part 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.



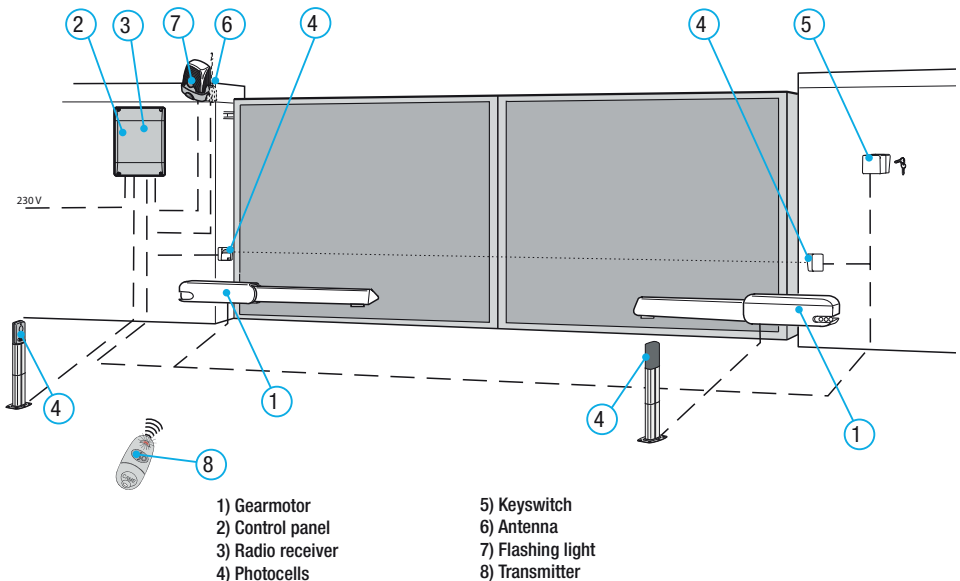
## 5.3 Cable list and minimum thickness

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 <sup>2</sup>	3G x 2,5 mm <sup>2</sup>	3G x 4 mm <sup>2</sup>
Motor power supply 230V		4G x 1 mm <sup>2</sup>	4G x 1,5 mm <sup>2</sup>	4G x 2,5 mm <sup>2</sup>
Flashing light 24V		2 x 0,5 mm <sup>2</sup>	2 x 1 mm <sup>2</sup>	2 x 1,5 mm <sup>2</sup>
Photocell transmitters		2 x 0,5 mm <sup>2</sup>	2 x 0,5 mm <sup>2</sup>	2 x 0,5 mm <sup>2</sup>
Photocell receivers		4 x 0,5 mm <sup>2</sup>	4 x 0,5 mm <sup>2</sup>	4 x 0,5 mm <sup>2</sup>
Accessories power supply 24V		2 x 0,5 mm <sup>2</sup>	2 x 0,5 mm <sup>2</sup>	2 x 1 mm <sup>2</sup>
Control and safety devices		2 x 0,5 mm <sup>2</sup>	2 x 0,5 mm <sup>2</sup>	2 x 0,5 mm <sup>2</sup>
Endpoints	3 x 0,5 mm <sup>2</sup>	3 x 1 mm <sup>2</sup>	3 x 1,5 mm <sup>2</sup>	
Antenna connection	RG58	max. 10 m		

N.B.: The cable section, with different lengths from those shown on the table, must be considered on the basis the actual draw of the connected devices, according to what is prescribed in the CEI EN 60204-1 Code.

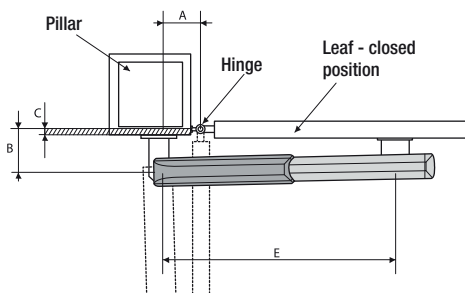
For connections that require varying loads on the same line (i.e. sequential), the table values should be reconsidered depending on the actual draws and distances.

## 5.4 Standard installation



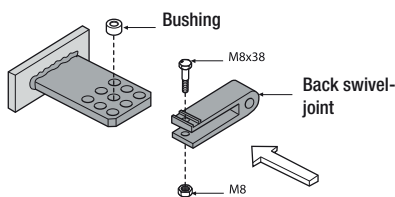
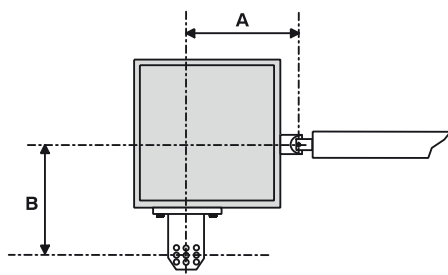
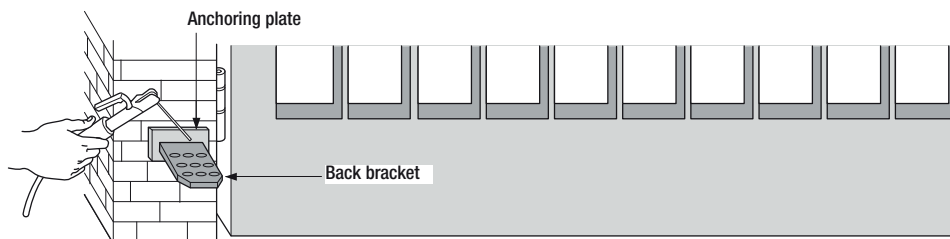
## 5.5 Mounting

**!** The following applications are only examples, in that the space available for fixing the operator and accessories varies depending on the dimensions. It is thus up to the installer to choose the most suitable solution.



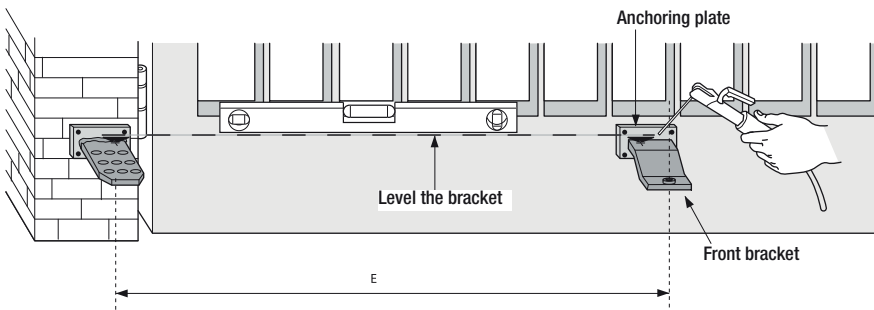
Tab. 3

Gate leaves < 3 m				
Opening	A mm	B mm	C < mm	E mm
90°	130	130	60	720
120°	130	110	50	720
Gate leaves < 5 m				
90°	200	200	120	920
120°	200	140	70	920

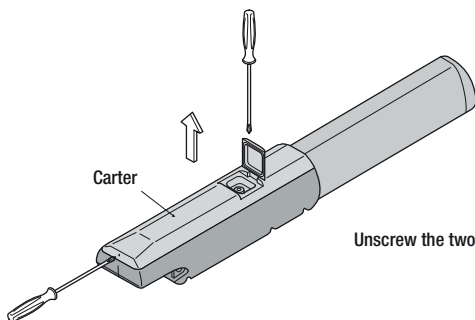


Apply the fixing plate to the post using the tail bracket, making sure that the values , A and B (tab. 3), are met between the hinge axis and the bracket's centre hole. The tail bracket is fitted with further holes to allow for variation of the gate's opening angle.

N.B.: increasing measurement B reduces the opening angle and thus the peripheral speed and increases the motor thrust on the gate leaf. Increasing measurement A increases the opening angle and thus the peripheral speed and reduces the motor thrust on the gate leaf.

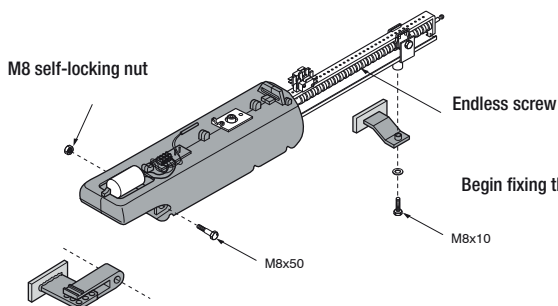
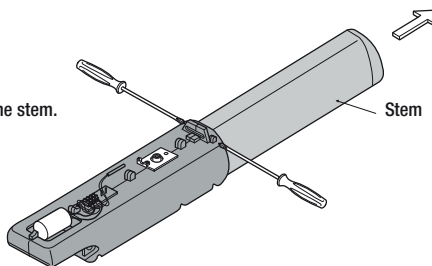


With the gate closed apply the anchoring plate to the gate leaf, making sure that the front bracket is lined up horizontally with the back bracket and ensuring that measurement E is met.



Unscrew the two screws and remove the carter.

Unscrew the two screws and remove the stem.



Begin fixing the gearmotor to the two brackets.

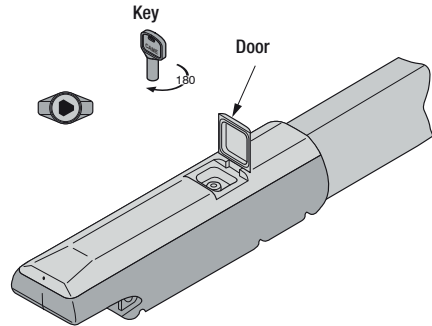
**N.B.:** upon installation we suggest lubricating (using a neutral grease) the endless screw and the bushing.

## 5.6 Release with customised key

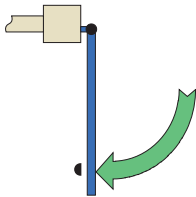
Release only with motor stopped:

- 1) raise the door;
- 2) insert and turn key which immediately releases door;
- 3) manually push or pull gate leaf.

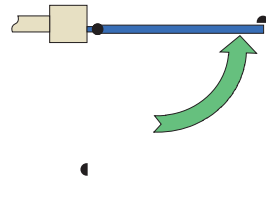
To lock gate leaf again into place just insert key again and turn.



## 5.7 Adjusting micro-switches



FOR OPENING



FOR CLOSING

- Release the gearmotor and move the door to the maximum desired open position.

Loosen the fixing screws of the opening microswitch unit.

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

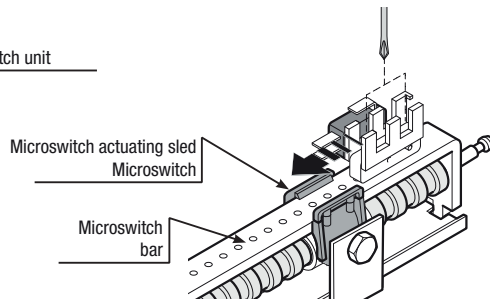
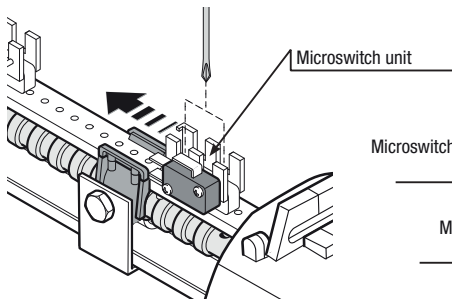
Firmly fasten the microswitch unit to the gearmotor.

With the gearmotor still released, swing the gate leaf until it is fully shut.

Loosen the fixing screws of the closing microswitch unit.

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

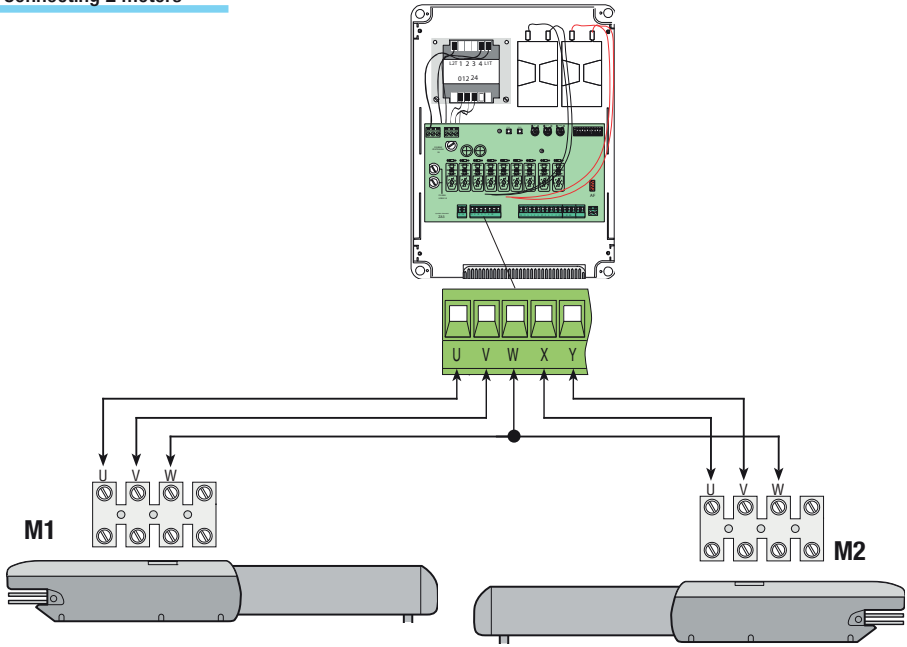
Firmly fasten the microswitch unit to the gearmotor.



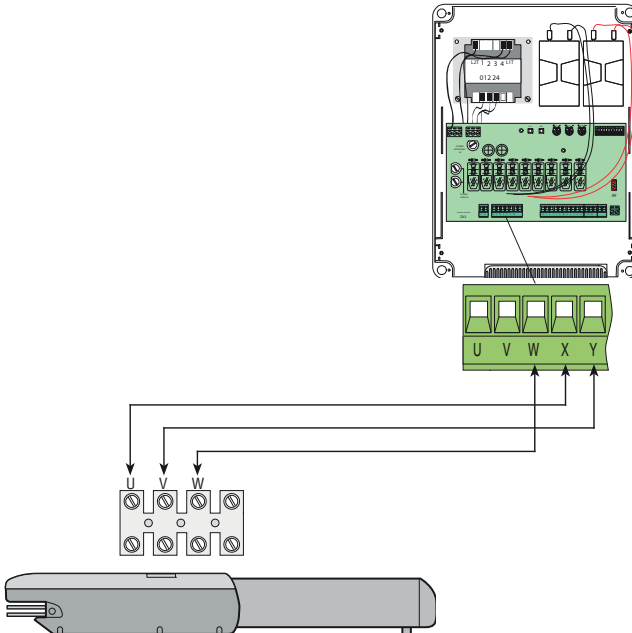


## 5.8 Connecting to the ZA3N/ZM3E control panels

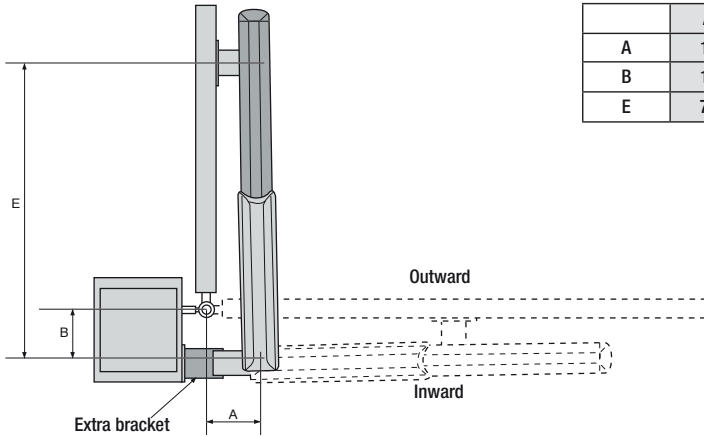
### Connecting 2 motors



### Connecting 1 motor



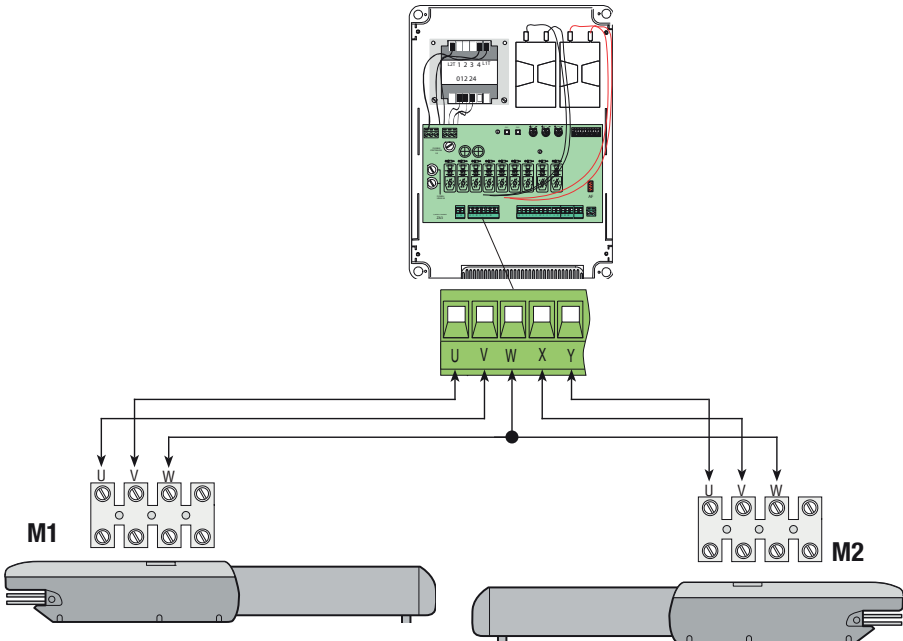
## 5.9 Application for outward opening



Tab. 4


	A3000A	A5000A
A	130 mm	200 mm
B	130 mm	200 mm
E	720 mm	920 mm

- Measure values A and B (Tab. 4)
- Secure the tail bracket to an extra bracket and apply to post.
- Open gate (max 90°), measure value E (Tab. 4) and secure head bracket to gate leaf.
- Perform electrical connections;
- Reposition and adjust openin stop microswitch.



## 7 Maintenance

### 7.1 Periodic maintenance

 Periodic maintenance to be carried out by the end-user is as follows: wipe clean the glass surface of the photocells; check that the safety devices work properly; remove any obstructions.

We suggest checking the state of lubrication and tightness of the anchoring screws on the operator.

To check the efficiency of the safety devices, move an object in front of the photocells when gate is closing. If the operator inverts the motion or stops, the photocells are working properly.

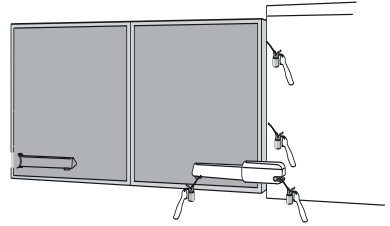
This is the only maintenance procedure to be carried out with the power source connected.

Before performing any maintenance procedures, cut off the main power, to prevent possible accidents due to gate movement.

To clean the photocells use a water dampened cloth. Do not use solvents or other chemical products which may ruin the devices.

In the event of any strange vibrations or squeaking, lubricate the joints with grease, as shown in the diagram.

Make sure there are no plants within the photocell's beam, and that the gate motion is free of any obstacles.




### 7.2 Trouble shooting

MALFUNCTIONS	POSSIBLE CAUSES	CHECK AND REMEDIES
The gate will not open nor close	<ul style="list-style-type: none"> <li>• There is no power</li> <li>• The gearmotor is released</li> <li>• The transmitter's batteries are run down</li> <li>• The transmitter is broken</li> <li>• The stop button is either stuck or broken</li> <li>• The opening/closing button or the keyswitch are stuck</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the power is up</li> <li>• Lock gearmotor (Chapt. 5.6)</li> <li>• Replace batteries</li> <li>• Call assistance</li> <li>• Call assistance</li> <li>• Call assistance</li> </ul>
The gate opens but will not close	<ul style="list-style-type: none"> <li>• The photocells are engaged</li> </ul>	<ul style="list-style-type: none"> <li>• Check that photocells are clean and in good working order</li> <li>• Call assistance</li> </ul>
The flashing light does not work	<ul style="list-style-type: none"> <li>• The bulb is burnt</li> </ul>	<ul style="list-style-type: none"> <li>• Call assistance</li> </ul>

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

Date	Notes	Signature

## 7.3 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 _____ _____ _____	

## 8 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** 

**CAME.COM**

**CAME S.P.A.**

Via Martiri Della Libert , 15

31030 Dosson di Casier - Treviso - Italy

tel. (+39) 0422 4940 - fax. (+39) 0422 4941