

AUTOMATION FOR SWING GATES

**KRONO** SERIES



INSTALLATION MANUAL

**KR300 - KR310 - KR510**

English

EN

**EN**

# **WARNING!**

**Important instructions for the safety of people:**

## **READ CAREFULLY!**



### **Foreword**

• Use of the products must be restricted to its intended use (i.e. that for which it was expressly built for). Any other use is to be considered dangerous. CAME Cancelli Automatici S.p.A. is not liable for any damage resulting from improper, wrongful or unreasonable use • Keep these warnings with the installation and use manuals issued with the automated system.

### **Before installing**

*(preliminary check: in case of a negative outcome, do not proceed before having complied with the safety obligations)*

• Make sure that the parts you intend to automate are in good working order, and that they are properly balanced and aligned. Also, make sure that proper mechanical stops are already in place • If the operator will be installed at a height of less than 2.5 m from the ground or other access level, check whether you will need any protections and/or warnings • Any gate leaves, fitted with pedestrian entrances, onto which you will install an operator, must have a blocking mechanism when the gate is in motion • Make sure that the opening of the automated gate is not an entrapment hazard as regards any surrounding fixed parts • Do not mount the operator upside down or onto any elements that may fold under its weight. If needed, add suitable reinforcements at the points where it is secured • Do not install onto gates on either an upward or downward slope (i.e. that are not on flat, level ground) • Check that any lawn watering devices will not wet the gearmotor from the bottom up.

### **Installation**

• Carefully section off the entire site to prevent unauthorised access, especially by minors and children • Be careful when handling operators that weigh more than 20 Kg (see installation manual). In such cases, employ proper weight handling safety equipment • All opening commands (e.g. buttons, key selectors, magnetic detectors, etc.) must be installed at least 1.85 m from the gate's area of operation perimeter - or where they cannot be reached from the outside of the gate. Also, the direct commands (e.g. push button, or proximity devices, etc.) must be installed at a height of at least 1.5 m and must not be accessible to the public • All 'maintained action' commands, must be placed where the moving gate leaves, transit areas and driveways are completely visible • If missing, apply a permanent label that shows the position of the release mechanism • Before delivering to the client, verify that the system is EN 12453 (impact test) standard compliant. Make sure that the operator has been properly adjusted and that the safety and protection devices, as well as the manual release

are working properly • Where necessary and in plain sight, apply the Warning Signs (e.g. gate plate).

### **Special instructions and advice for users**

• Keep the gate's area of operation clean and clear of any obstacles. Trim any vegetation that may interfere with the photocells • Do not allow children to play with the fixed command devices, or in the gate's area of operation. Keep any remote control devices (i.e. transmitters) away from the children as well • Frequently check the system, to see whether any anomalies or signs of wear and tear appear on the moving parts, on the component parts, on the securing points, on the cables and any accessible connections. Keep any joints (i.e. hinges) lubricated and clean, and do the same where friction may occur (i.e. slide rails) • Perform functional tests on photocells and sensitive edges, every six months. Keep glass panels constantly clean (use a slightly water-moistened cloth; do not use solvents or any other chemical products) • If the system requires repairs or modifications, 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. See instructions • Users are FORBIDDEN to carry out ANY ACTIONS THAT THEY HAVE NOT BEEN EXPRESSLY ASKED TO DO OR SO INDICATED in the manuals. Any repairs, modifications to the settings and extraordinary maintenance MUST BE DONE BY THE TECHNICAL ASSISTANCE STAFF • On the periodic maintenance log, note down the checks you have done.

### **Special instructions and advice for all**

• Avoid working near the hinges or moving mechanical parts • Stay clear of the gate's area of operation when in motion • Do not resist the direction of movement of the gate; this may present a safety hazard • At all times be extremely careful about dangerous points that must be indicated by proper pictograms and/or black and yellow stripes • When using a selector or command in 'maintained action' mode, keep checking that there are no people in the area of operation of the moving parts. Do this until you release the command • The gate may move at any time without warning • Always cut the power when cleaning performing maintenance.



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# General conditions of sale



## 1. GENERAL POINTS

These general conditions shall apply to all purchase agreements for Came Cancelli Automatici SpA materials, hereinafter called “the company”.

## 2. OFFERS AND QUOTATIONS

The company's quotations are valid for a 30-day period at the most starting from the date they are sent.

## 3. ORDERS

The sale agreement is executed once the written order is confirmed by Came Cancelli Automatici SpA or when the order is fulfilled by the company. Orders that are addressed, and signed by clients, to Came Cancelli Automatici SpA are deemed to be firm and irrevocable for 30 days starting from the date they are received by the company. Any change or addition to the single provisions of these general conditions or single provisions of the order which was originally addressed by the client, shall have no validity unless otherwise approved in writing by the company. For any changes to the order, the company reserves the right to cancel both the changes and the original order. The delivery date for the goods appearing on the orders is always and in any case exclusively indicative, and any delays of such term may never justify claims for compensation or cancellation of contract.

Particularly, the company reserves the right to extend the delivery terms or cancellation of order in the event of: force majeure or events that are beyond the control of the company; change of the Client's legal status; difficulty in sourcing raw materials and component parts.

## 4. DELIVERY AND FORWARDING

The place of production or registered office of the company shall be the place of fulfilment for delivery. The cost and risk of the travelling goods is borne by the buyer ex works, pursuant to the 2000 incoterms. Unless otherwise agreed, the company establishes, for and on behalf of the client, the type of shipping, the travel route and type of carrier. The company reserves the right to carry out partial deliveries and fulfilment of orders, thereby issuing a separate invoice each time: in this case all partial deliveries shall be autonomously invoiced and the terms of payment shall begin as of the date on each invoice; the client may not, therefore, defer payment of partial orders, until the last delivery is made as concerns the original order.

## 5. PRICES AND PRICE LISTS

The prices are intended for goods delivered free to the company's registered office, not including VAT, with normal packaging, and not including forwarding expenses. Any reference to list prices shall refer to the latest price list published by the company, which theretofore cancels any previous price lists.

## 6. PAYMENTS

Non-payment within the established terms, shall result in the application of interest pursuant to Lgs. Decr. 09/10/2002 n. 231 and subsequent amendments and upgrades, with any possible greater damage unprejudiced. Any delay in payment, shall mean that the client shall owe the company, any losses due to exchange rates. The client may not advance any demands nor raise any exceptions as concerns the company, unless after having paid the goods it purchased. The company reserves the right to block all shipping and supply orders underway in the face of any irregularities in the payments, without need of prior notice nor compensatory damages of any kind.

## 7. RETURNS AND CLAIMS

All claims must be filed in writing within 8 days of receiving the goods, whether such claims refer to the quantity or quality of the delivered goods. Returned goods shall be accepted by company only following a written agreement, and only for new and packaged goods. Any returned goods must be complete of their relative transport documents, showing the company's written authorisation to accept the returned goods including the quality and quantity of the returned goods.

The returned goods shall not be accepted by the company unless carried out in the above mentioned manner and, especially, returned goods shall not be accepted if received at any of the company's premises.

## 8. GUARANTEE

The company guarantees the proper functioning of the products that it provides, as per the technical characteristics that are expressly shown on its products' technical sheets. The guarantee shall not apply in the case of any environmental interferences of any nature, which could cause disturbances in the functioning of any existing or future installations (radio frequencies – proximity of electric power lines...). The guarantee does not cover the normal wear and tear of the equipment, or mistakes made during the mounting phase or due to maintenance flaws, and in any case it does not cover any cases in which flaws in the functioning can be traced back to factors stemming from anything other than manufacturing.

The deadlines for filing a claim for any flaws or for the statute of limitations for actions to which the buyer is entitled are those foreseen by Italian law. The company at its own leisure, may decide to withdraw any goods supplied which it has ascertained as faulty, or decide to repair said ascertained flaws. The client may not request to be compensated for any indirect damages, missed gains, production losses, and in any case may not expect as compensation any sums greater than the value of the supplied components or products.

## 9. REPAIRS

Repairs to purchased items request by the client shall be carried out by the company following an agreement on the price of said repairs. In any case the expenses for labour and shipping (roundtrip) shall be borne by the client.

## 10. RESERVATION OF TITLE

It is expressly agreed that, any delivered goods remain owned by the company until the client pays the entire balance, regardless of who is in possession of said goods. Transport expenses and any other expenses needed to retrieve the equipment, therein including any extraordinary expenses as well as any repeatable ones, shall be borne by the client.

**11. APPLICABLE LAW – SETTLEMENT OF ANY DISPUTES** Any arising dispute resulting from the sale agreement, shall be settled according to the Italian law, thereby excluding any other law and in supplement to the Vienna Convention on the international sale of goods. All disputes shall be subject to Italian jurisdiction and come under the exclusive competence of the Tribunal of Treviso, Italy.

## 12. PROVISIONS ON THE SAFEGUARDING OF PERSONAL DATA.

Pursuant to current legislation for the safeguarding of personal data, clients are aware that their personal data is inputted into the company's databank, which is necessary for the proper carrying out of the contractual relationship and for compliance with certain provisions of law, as well as for purposes of statistics, promotion, marketing, commercial, credit protection, management and transfer of the same.

The personal data of the buying party are processed through automated and paper-based tools by authorised persons, by using safety procedures designed to guarantee confidentiality. The personal data of the client may be shared with Public Bodies, companies of the group, credit recovery firms, or consortiums or associations with business scopes, market research scopes, or marketing scopes. The data processor shall be the company, and the client may address said company to uphold their own rights as per law. To this end the buying party is aware that at any time it may access its personal data, ask that it be updated, corrected and/or prohibit it from being used.

## “IMPORTANT INSTALLATION, SAFETY INSTRUCTIONS”

“CAUTION: IMPROPER INSTALLATION MAY CAUSE SERIOUS DAMAGE, FOLLOW ALL INSTALLATION INSTRUCTIONS CAREFULLY”

“THIS MANUAL IS ONLY FOR PROFESSIONAL OR QUALIFIED INSTALLERS”



## 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 applications

### 2.1 Intended use

The KRONO gearmotor is specifically engineered to automate residential and condominium swing gates.

- 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

Type	KR 300 - KR 310		
Length of gate leaf (m)	2	2.5	3
Weight of gate leaf (kg)	800	600	400

Type	KR 510				
Length of gate leaf (m)	2	2.5	3	4	5
Weight of gate leaf (kg)	1000	800	600	500	400

## 3 Reference Standards

The company CAME cancelli automatici is ISO 9001:2000 quality certified; it has also obtained the ISO 14001 environmental safeguarding certification. CAME engineers and manufactures all of its products in Italy.

This product complies with the following legislation: see declaration of compliance.

## 4 Description

### 4.1 Gate Operator

This product is engineered and manufactured by CAME cancelli automatici s.p.a. and complies with current safety regulations. Guaranteed 24 months if not tampered with.

The gearmotor is formed of a motor in an armoured die-cast aluminium casing and a die-cast aluminium reduction gear casing which contains a worm screw – helical gear – lead screw system.

There are various models of the gearmotor available:

001KR300D - Right hand irreversible gearmotor for leaves up to 3m.

001KR300S - Left hand irreversible gearmotor for leaves up to 3m.

001KR310D - Right hand irreversible gearmotor with microswitches incorporated for stopping the leaf, for leaves up to 3m.

001KR310S - Left hand irreversible gearmotor with microswitches incorporated for stopping the leaf, for leaves up to 3m.

001KR510D - Right hand irreversible gearmotor with microswitches incorporated for stopping the leaf, for leaves up to 5m.

001KR510S - Left hand irreversible gearmotor with microswitches incorporated for stopping the leaf, for leaves up to 5m.

Accessories:

001KR001 - Yale lock with DIN key.

## 4.2 Technical features

Motoriduttore KR300 / KR310

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

Max draw.: 1,1 A

Power: 130W

Opening time (90°): 22s

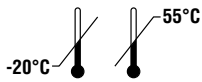
Thrust: 400 - 3000 N

Duty Cycle: 30%

Condenser: 8 µF

Protection Rating: IP54

Weight: 10 kg



Motoriduttore KR510

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

Max draw.: 1,1 A

Power: 130W

Opening time (90°): 34s

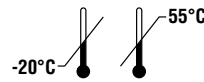
Thrust: 400 - 3000 N

Duty Cycle: 30%

Condenser: 8 µF

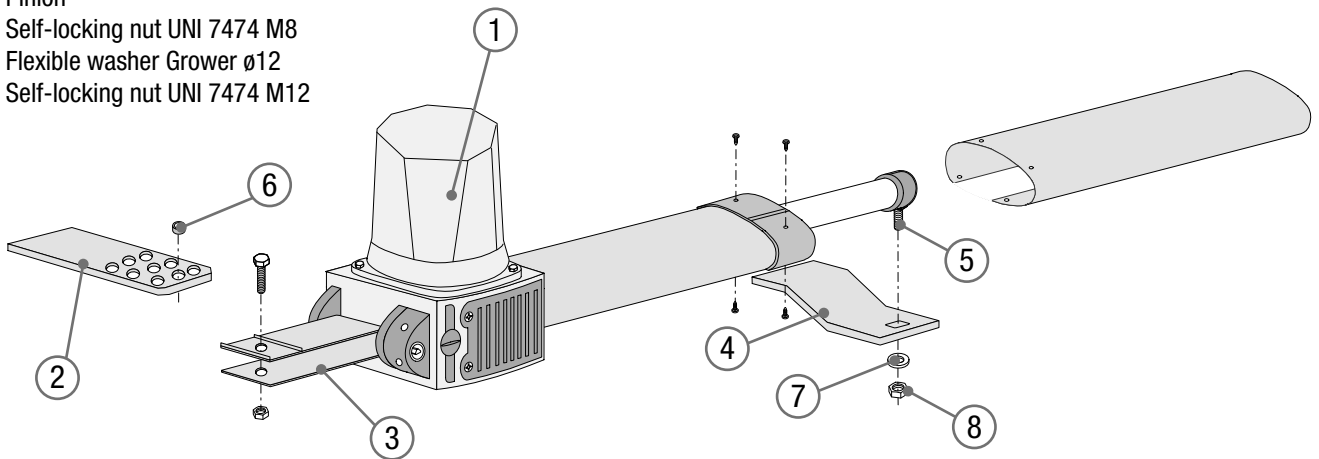
Protection Rating: IP54

Weight: 12 kg



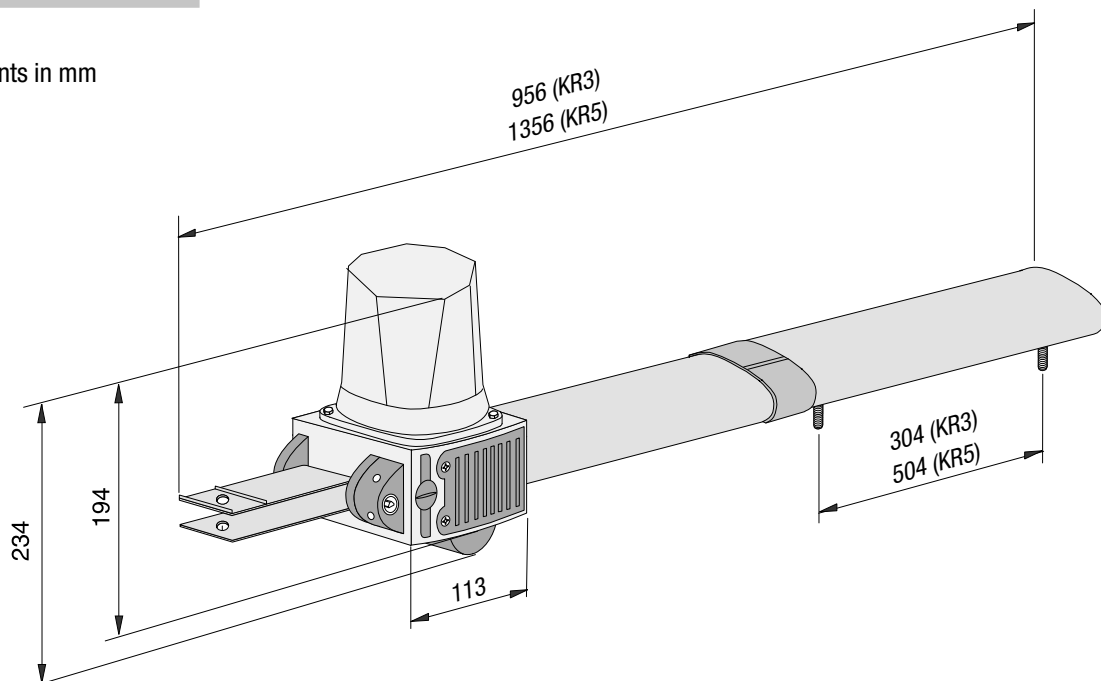
## 4.3 Description of parts

- 1) Gearmotor
- 2) Tail hooking bracket
- 3) Tail articulated joint
- 4) Head bracket
- 5) Pinion
- 6) Self-locking nut UNI 7474 M8
- 7) Flexible washer Grower ø12
- 8) Self-locking nut UNI 7474 M12



## 4.4 Overall dimensions

Measurements in mm



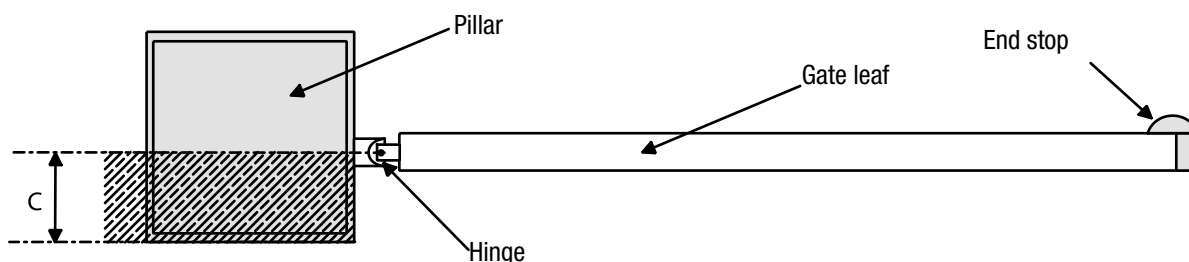
## 5 Installation

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

### 5.1 Preliminary checks

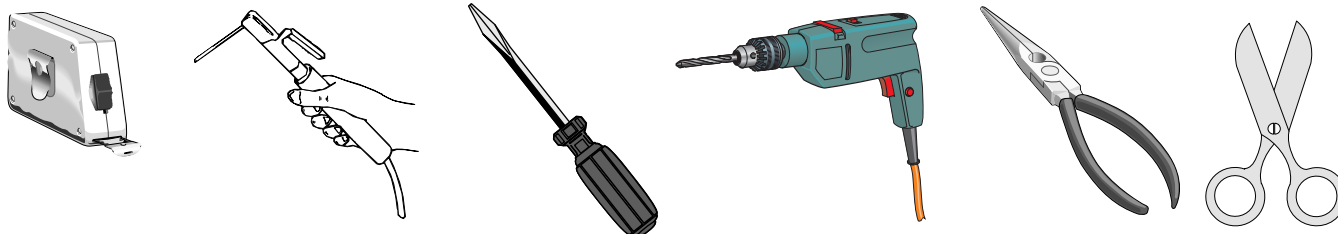
**⚠** Before installing, do the following:

- Make sure the structure of the gate is sturdy, the hinges work and that there is no friction between moving and non-moving parts;
- That measurement C is not greater than the value shown in Tab. 3, p. 6. 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

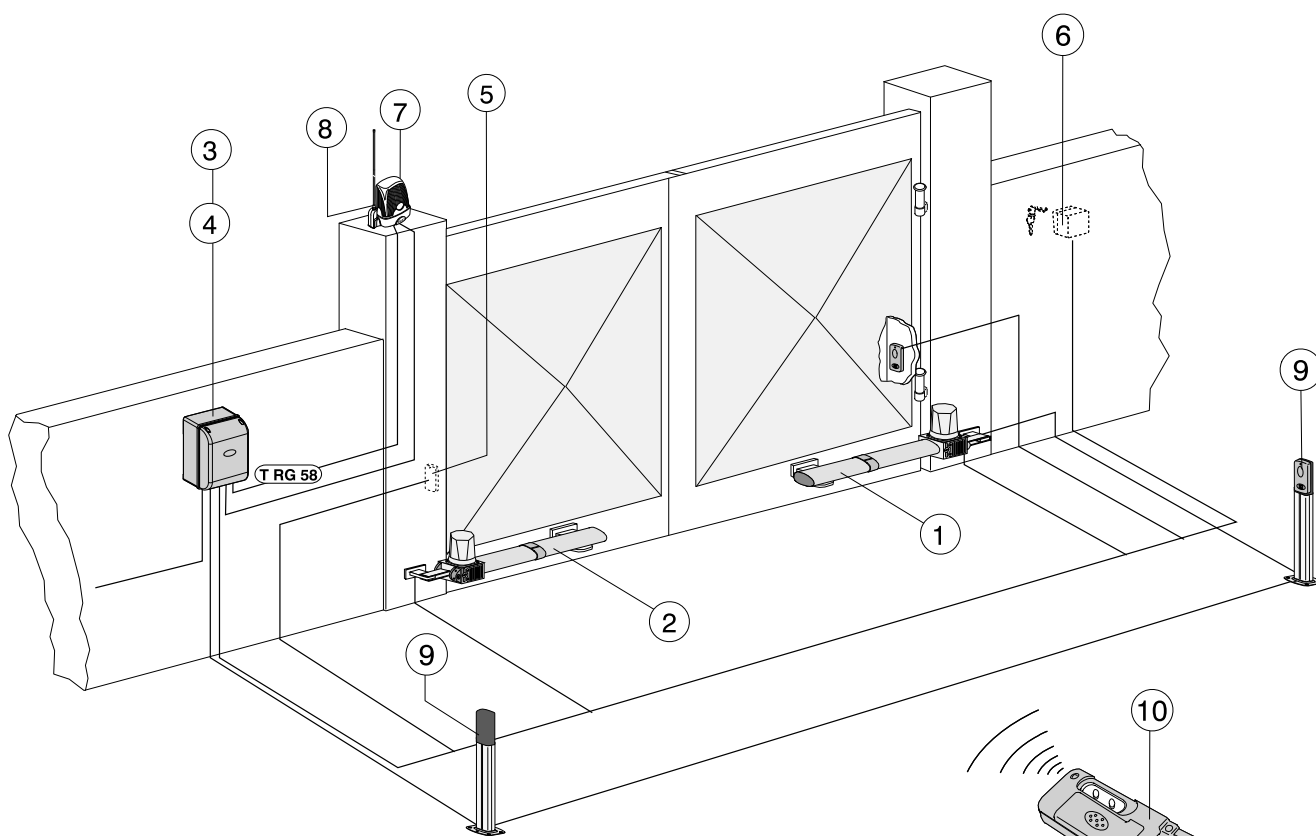
Connections	Type of cable	Length of cable 1 < 10 m	Length of cable 10 < 20 m	Length of cable 20 < 30 m
Control panel power supply 230V	FROR CEI 20-22 CEI EN 50267-2-1	3G x 1,5 mm <sup>2</sup>	3G x 1,5 mm <sup>2</sup>	3G x 2,5 mm <sup>2</sup>
Motor power supply 230V		4G x 1,5 mm <sup>2</sup>	4G x 1,5 mm <sup>2</sup>	4G x 2,5 mm <sup>2</sup>
Flashing light		2 x 1,5 mm <sup>2</sup>	2 x 1,5 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		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>
Antenna	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.

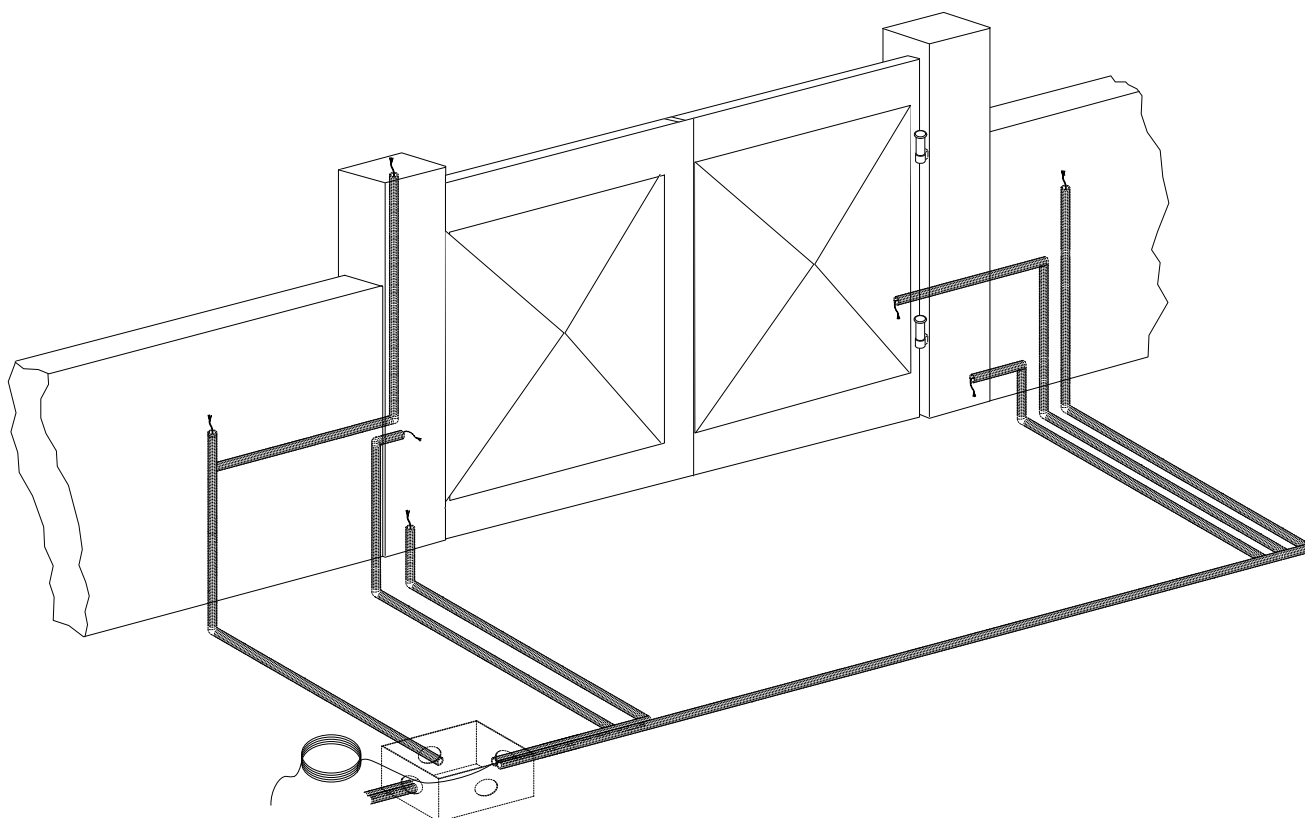
When connecting products that are not specified in this manual, please follow the documentation provided with said products.

## 5.4 Standard installation

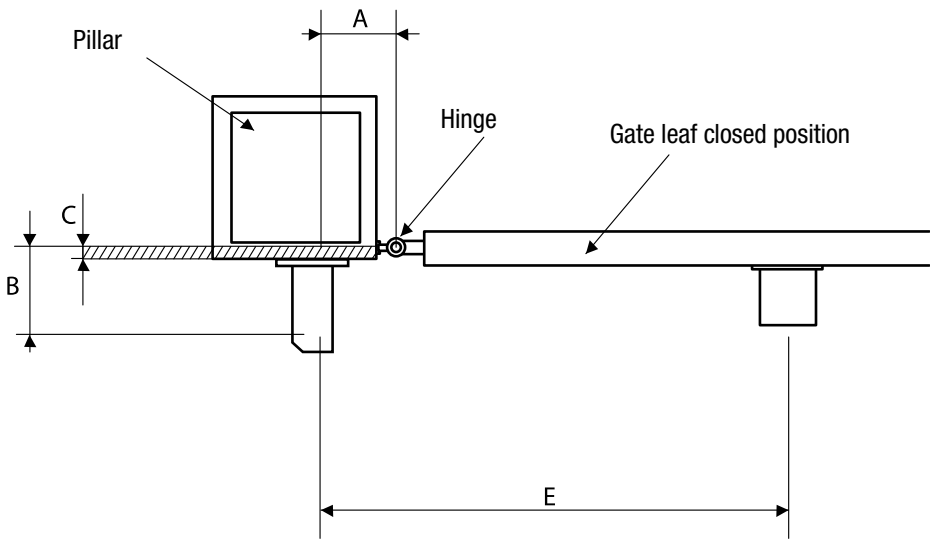


- |                          |                                 |
|--------------------------|---------------------------------|
| 1) Left-hand motor unit  | 6) Key-operated selector switch |
| 2) Right-hand motor unit | 7) Flashing light               |
| 3) Control panel         | 8) Receiving antenna            |
| 4) Radio receiver        | 9) Photocell column             |
| 5) Safety photocell      | 10) Radio transmitter           |

## 5.5 Installing the operator



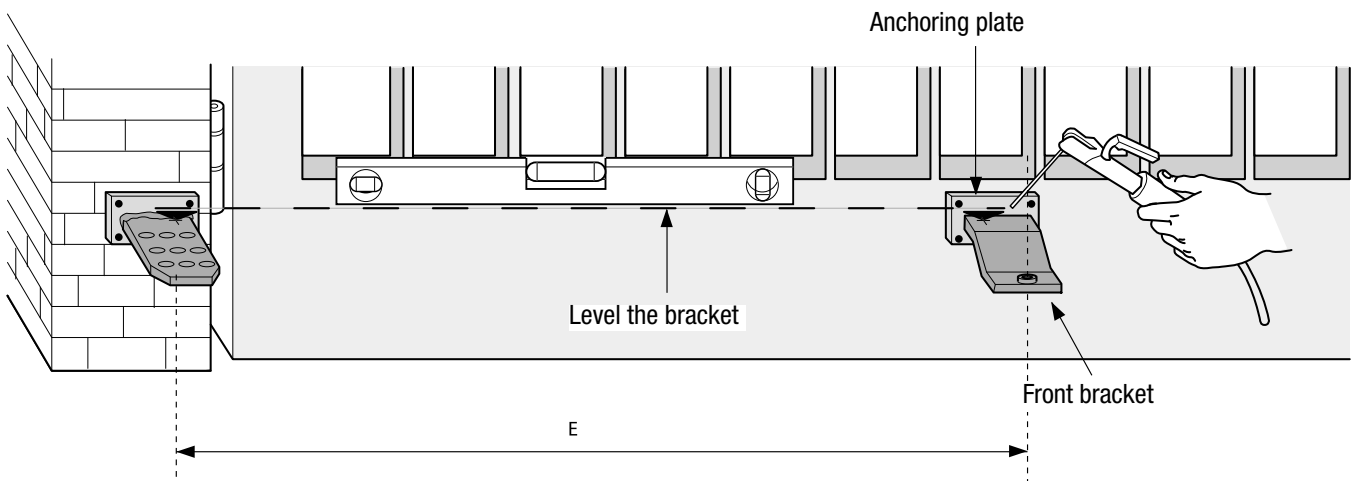
Warning: after establishing the best point to which you will secure the gate bracket, secure the bracket to the pillar and make sure the quotas shown in the table below are met.



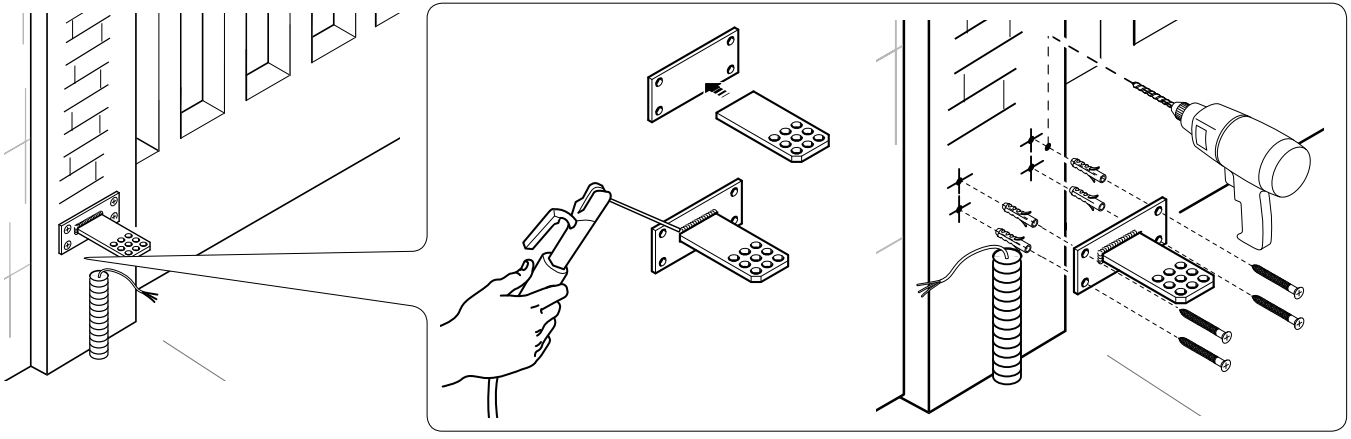
Tab. 3

Gate leaves up to 3 m (KR3)				
Opening	A mm	B mm	C max mm	E mm
90°	130	130	60	910
120°	130	110	50	910

Gate leaf up to 5 m (KR5)				
Opening	A mm	B mm	C max mm	E mm
90°	200	200	120	1310
130°	200	140	70	1310

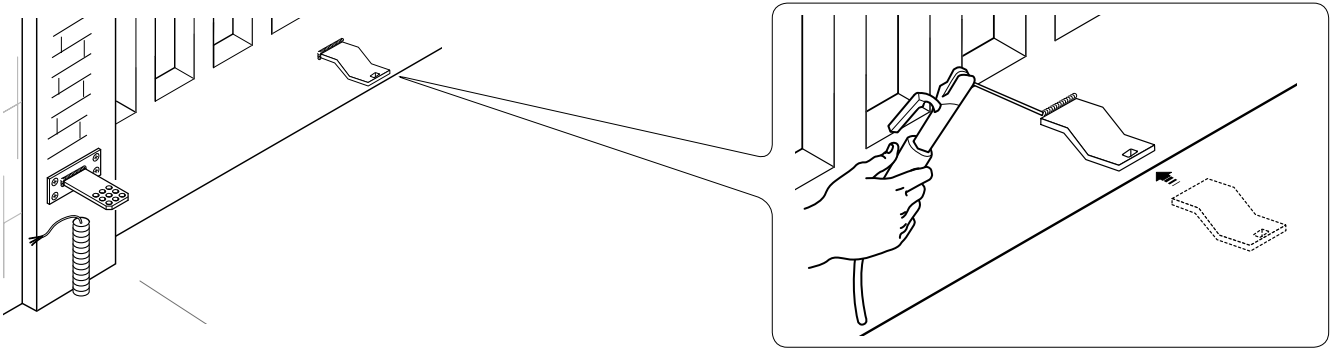


Assemble and weld the two parts of the pillar bracket. Secure the bracket to the point you have chosen with proper plugs and screws or - if the pillar is made of metal - weld it on.

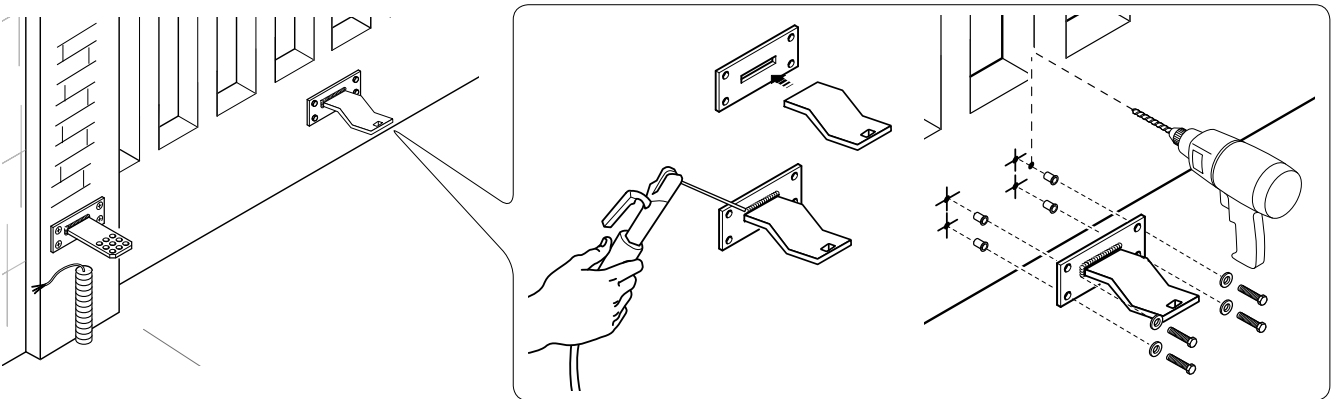




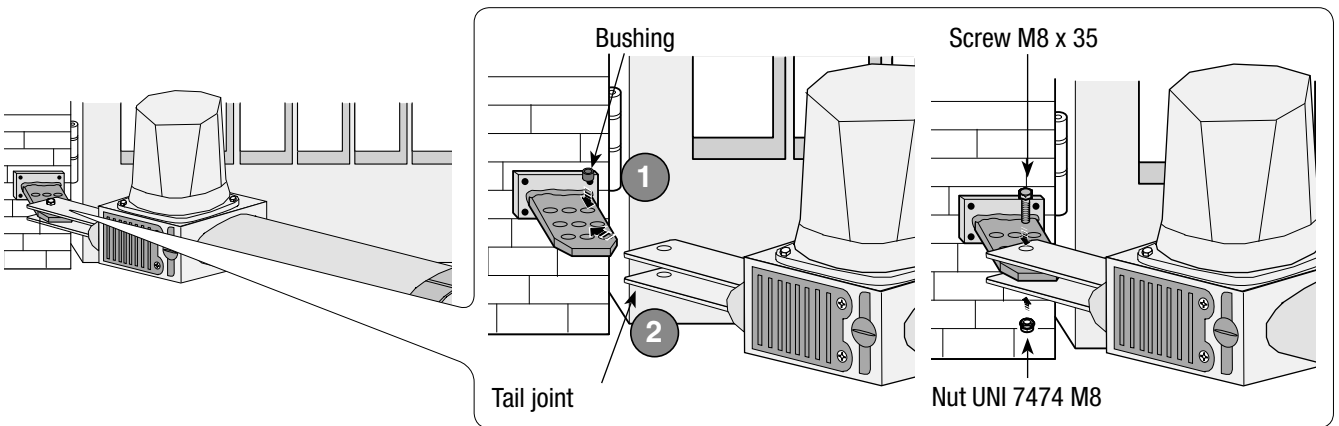
Weld the gate bracket to the gate leaf making sure the quotas shown in the table are met.



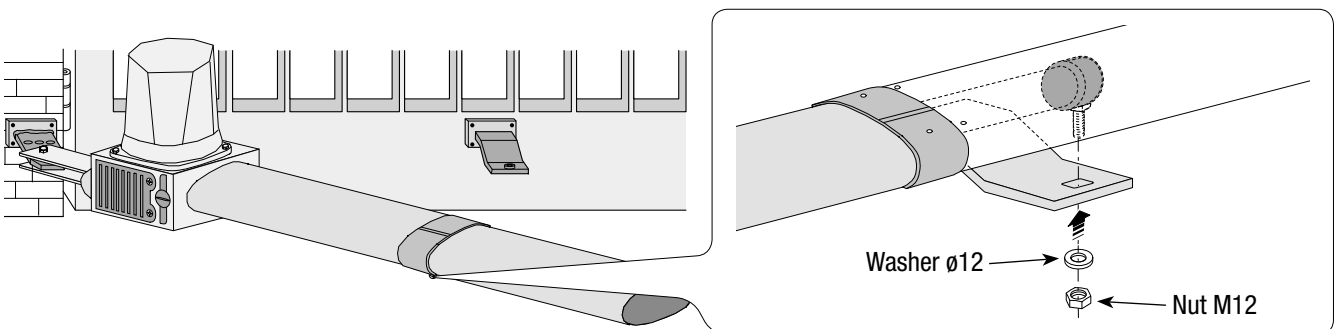
Note: on non-metal gate leaves assemble and weld the two parts of the bracket and secure them with proper screws.



Insert the bushing (lubricated) into the pillar bracket's hole. The bracket has holes that allow the opening angle to be changed. Secure the tail joint to the bracket. Secure the tail joint to the bracket.

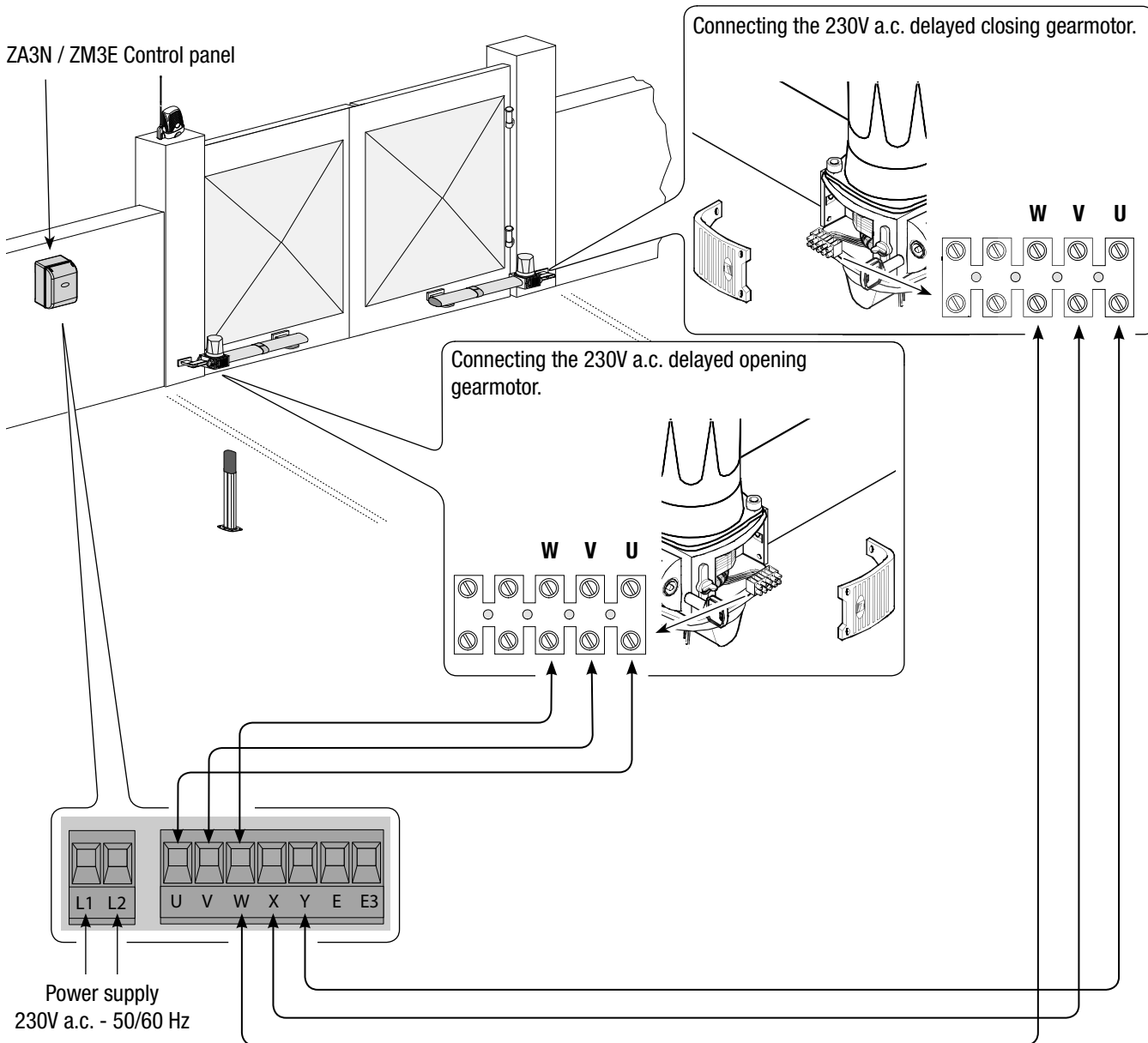


Insert the bushing onto the main lug as shown in the drawing.



## 5.6 Connecting to the control panel

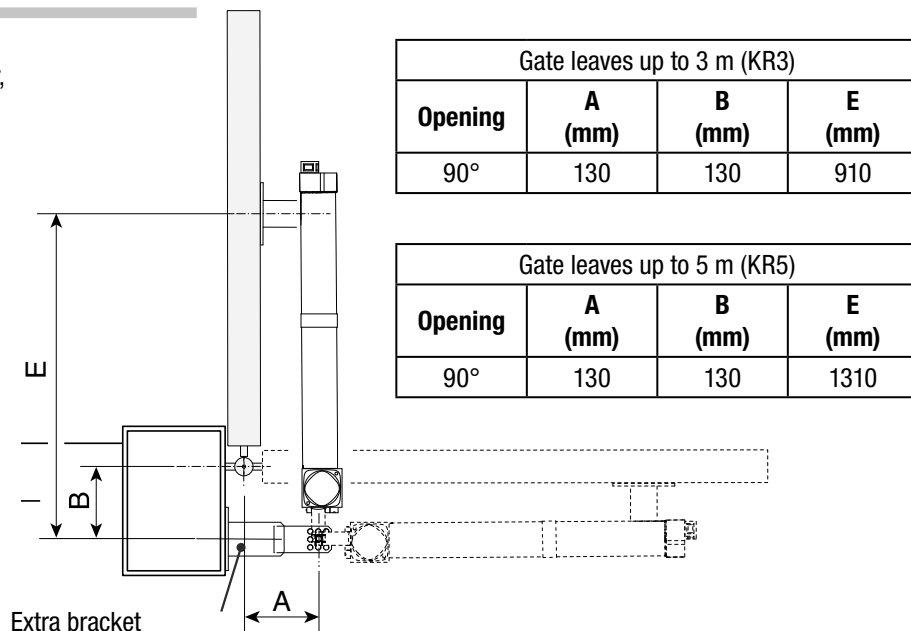
For the electrical connection procedures, use the junction box and branching boxes.

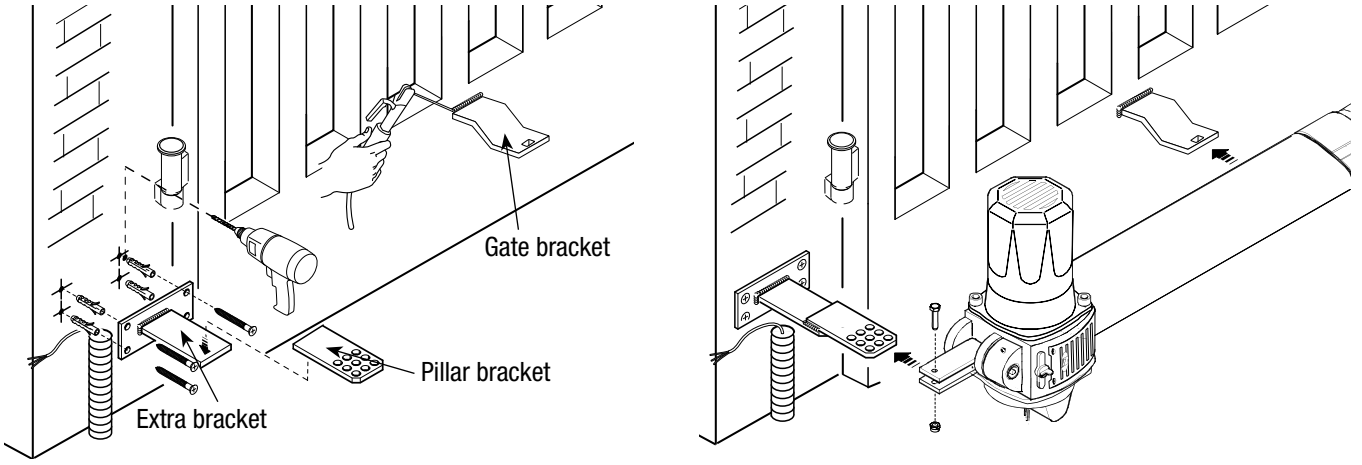


## 5.7 Outward opening installation

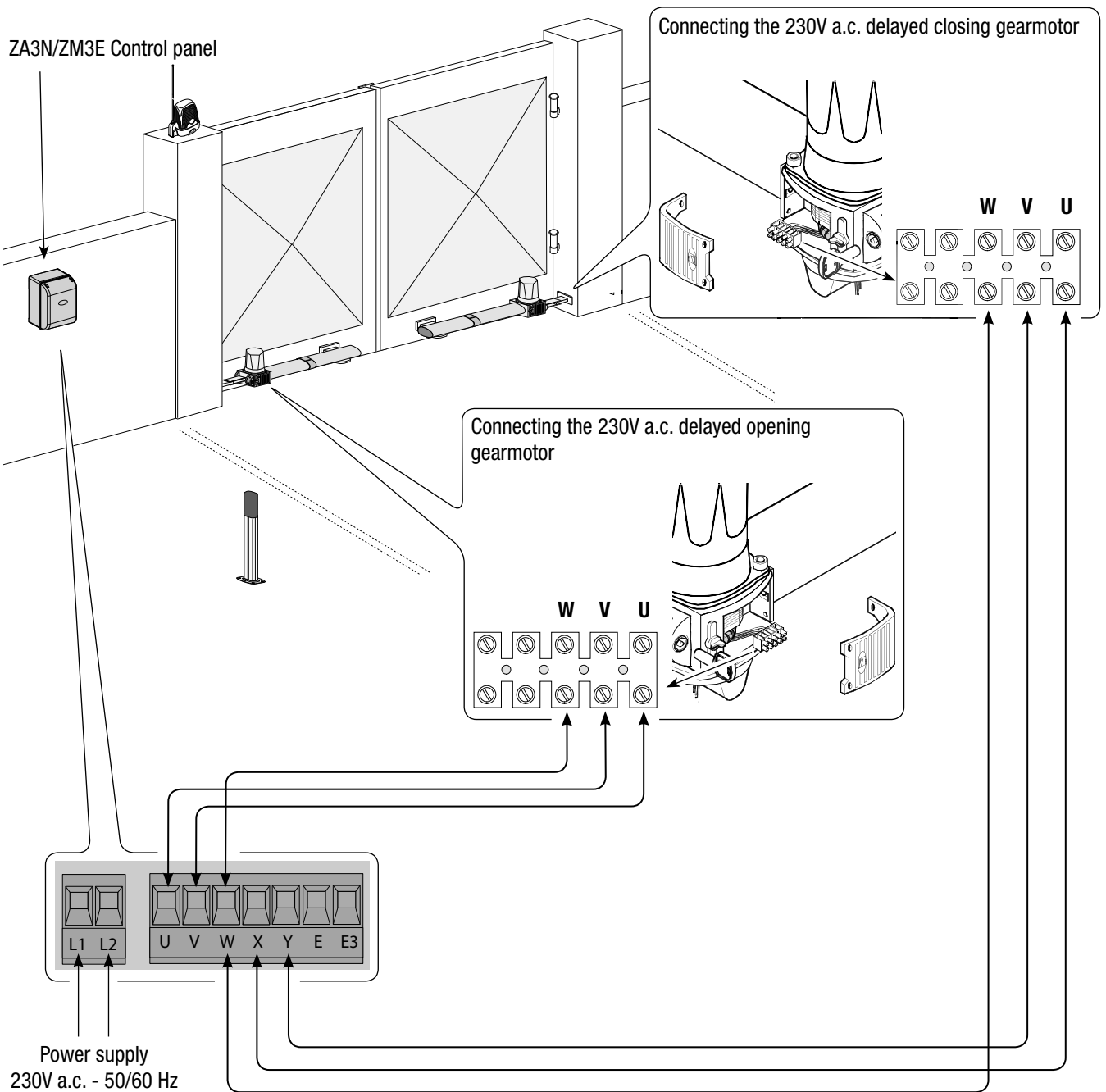
Weld the extra bracket to that of the pillar, secure the extra bracket to the pillar making sure the A and B quotas are met as shown in the table.

Open the gate to a 90° arc, weld or secure using proper screws the gate bracket making sure the E quota is met. Secure the gearmotor to the brackets.



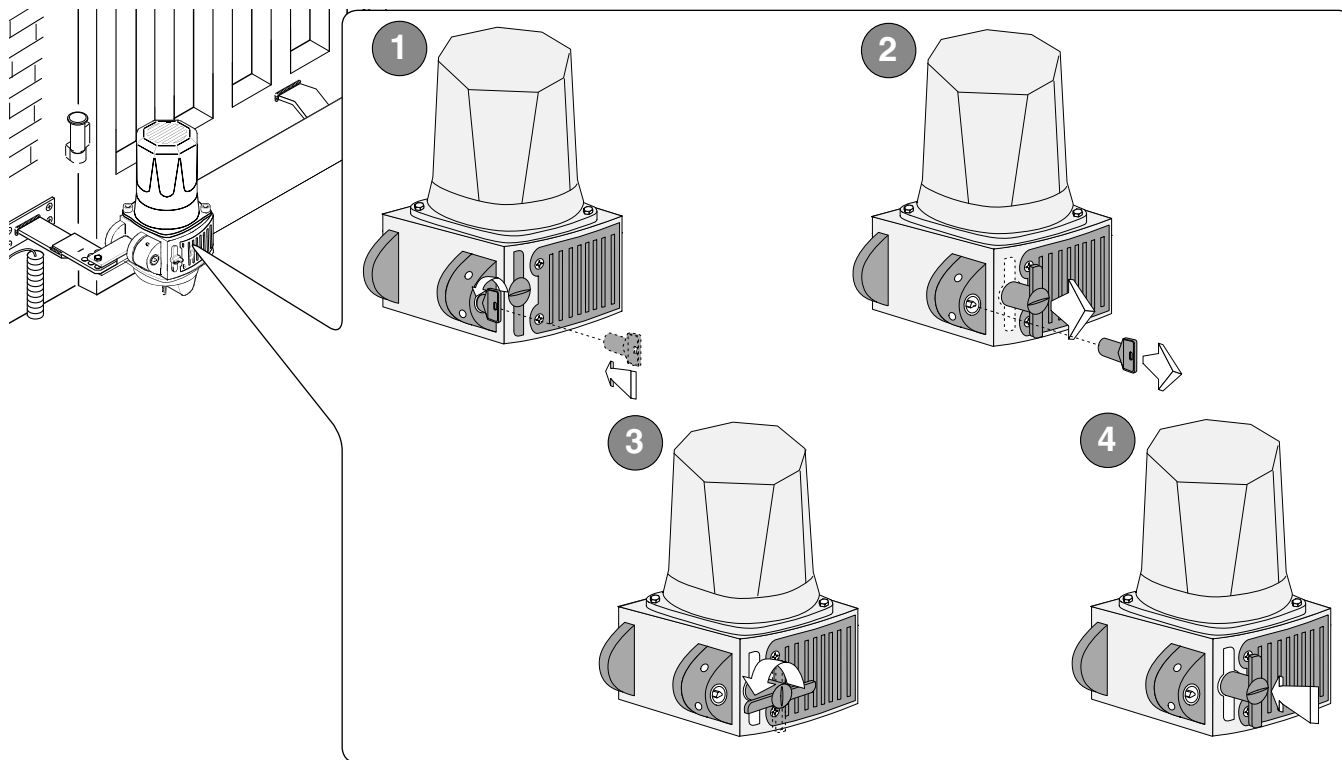


Connect the gearmotors to the panel as shown in the diagram.



### 5.8 Manual release of the gearmotor

Put the key in the lock and turn it to unhook the release lever and then remove the key; turn the release lever by 90° in either direction. To block the leaf, return the release lever to the original position.



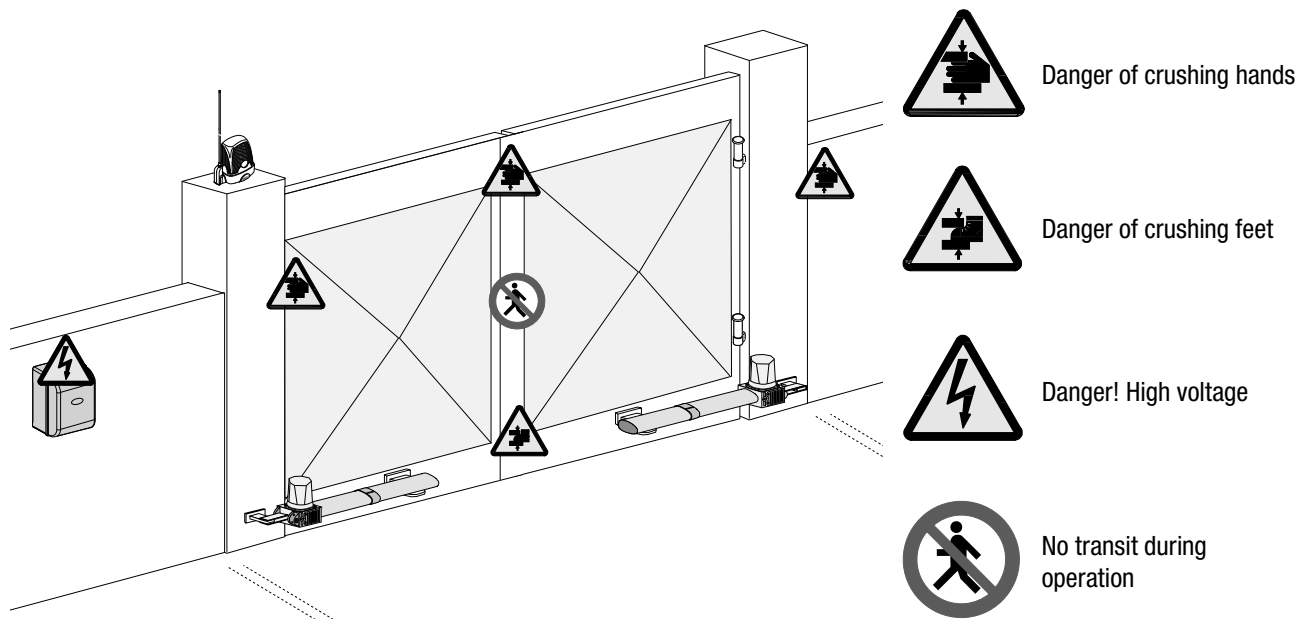
## 6 Safety instructions

### ⚠ Important safety instructions

This product must only be employed for its originally intended use. Any other use is wrong and potentially dangerous. The manufacturer cannot be held liable for any damages resulting from wrongful, erroneous or negligent uses.

Avoid working close to the hinges or other moving mechanical parts. Stay out of the opening/closing arc when operator is in motion.


Do not exercise force against the motion of the operator as this could result in potentially dangerous situations.



Do not allow children to play or loiter within the opening/closing arc of the operator. Keep remote controls and any other command device out the reach of children, to prevent operator from being activated by accident. In the event of anomalous behaviour, stop using the operator immediately.

## 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.

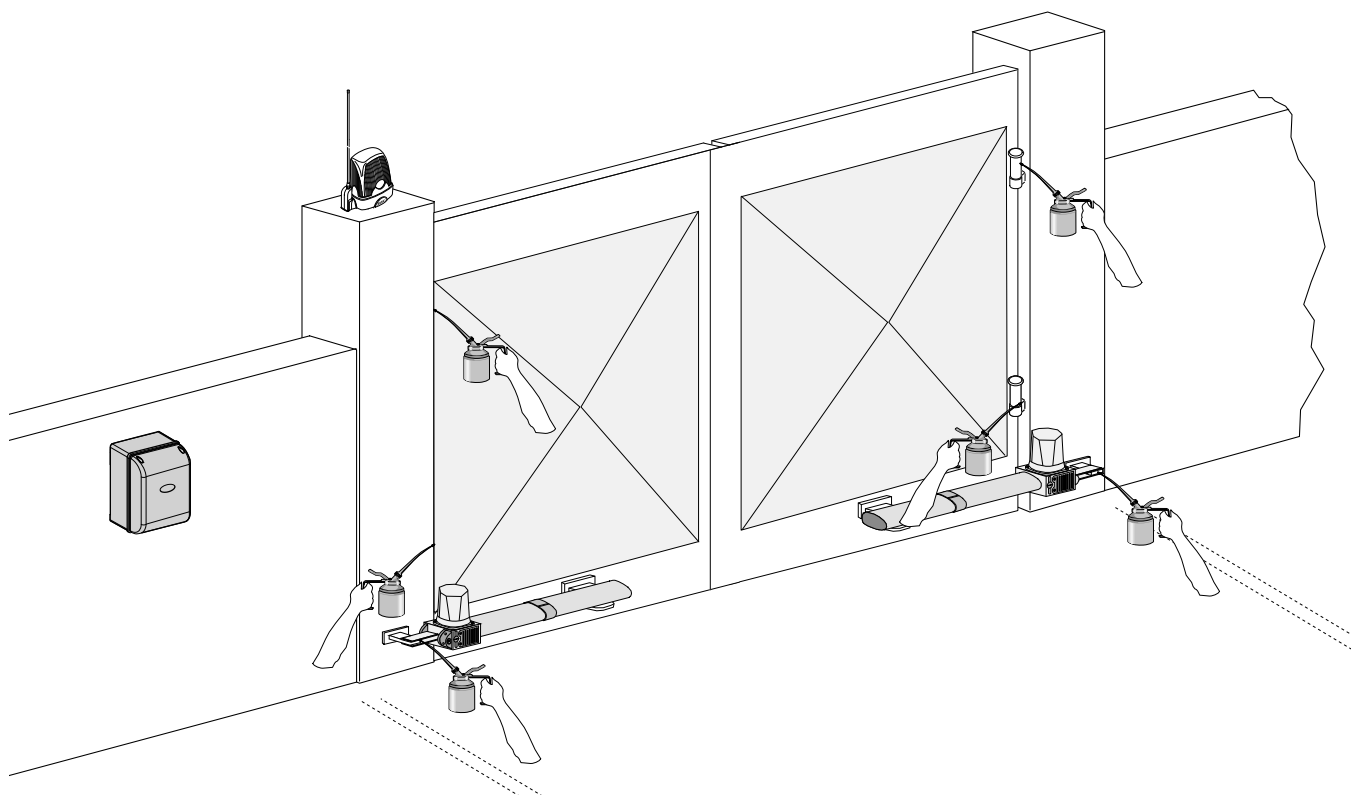
To check the efficiency of the safety devices, move an object in front of the photocells when gate is closing. If the operator inverts the motion or stops, the photocells are working properly.

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 selector switch are stuck</li> </ul>	<ul style="list-style-type: none"> <li>• Check that the power is up</li> <li>• Call assistance</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>

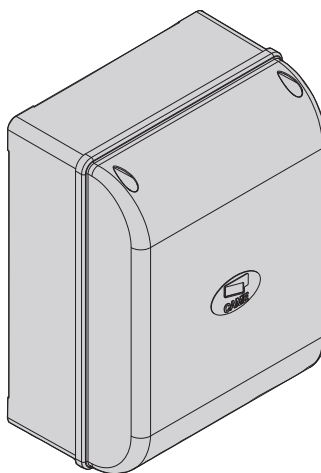


CE

319S63EN

CONTROL PANEL  
FOR 230 V OPERATORS

Z  
SERIES



INSTALLATION MANUAL

**ZF1N**



English

EN

## "IMPORTANT INSTALLATION SAFETY INSTRUCTIONS"

"WARNING: IMPROPER INSTALLATION MAY RESULT IN SERIOUS HARM. PLEASE FOLLOW ALL INSTALLATION INSTRUCTIONS"

"THIS MANUAL IS INTENDED ONLY FOR PROFESSIONAL INSTALLERS OR OTHER COMPETENT INDIVIDUALS"



## 1 Legend of symbols



This symbol shows parts which must be read with care.



This symbol means the parts which describe safety issues.



This symbol tells you what to tell the end-user.

## 2 Intended use and limits to use

### 2.1 Intended use

The ZF1N control panel is suitable for swing gate operators of the ATI, FERNI, FAST, KRONO series that powered by 230 V.



Any installation and use other than that specified in this manual is forbidden.

### 2.2 Limits to use

The overall power load of the connected operator must not exceed 320 W.

## 3 Reference standards

Came Cancelli Automatici employs an ISO 9001:14001 certified quality management system and an ISO 14001 environmental management system. Came entirely engineers and manufactures in Italy.

This product is compliant with: *see statement of compliance.*

## 4 Description

Engineered and built entirely by Came Cancelli Automatici S.p.A.

Power supply 230 V AC on terminals L1 and L2. The control panel is protected by a 5 A fuse, while the low voltage accessories (24 V) are protected by a 3.15 A fuse.

Warning! The overall power of the 24 V accessories must not exceed 20 W.

All connections are protected by quick fuses, see table.

The card provides and controls the following functions:

- automatic closing after an opening command;
- maintained action command.

The available command modes are:

- opening/closing;
- total stop.

The photocells, after detecting an obstacle, may trigger:

- the reopening of the closing gate;
- a total stop.

Specific trimmers regulate:

- the working time for automatic closing;
- the delayed closing time of operator 2;
- the working time.

You can also connect:

- 12 V electro-lock
- gate open warning-lamp.

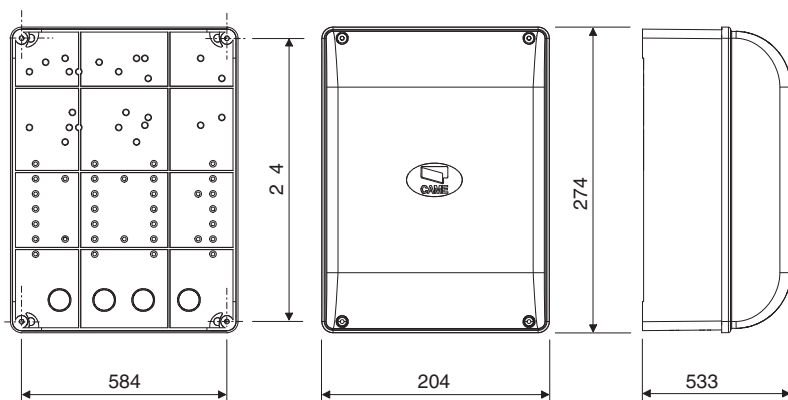
### TECHNICAL DATA

Power supply	230 V - 50/60 Hz
Maximum allowed power load	320 W
Power draw when idle	40 mA
maximum power for 24 V accessories	20W
Circuit insulation class	□
Container material	ABS
Container protection rating	IP54
Working temperature	- 20 / +55°C

### FUSE TABLE

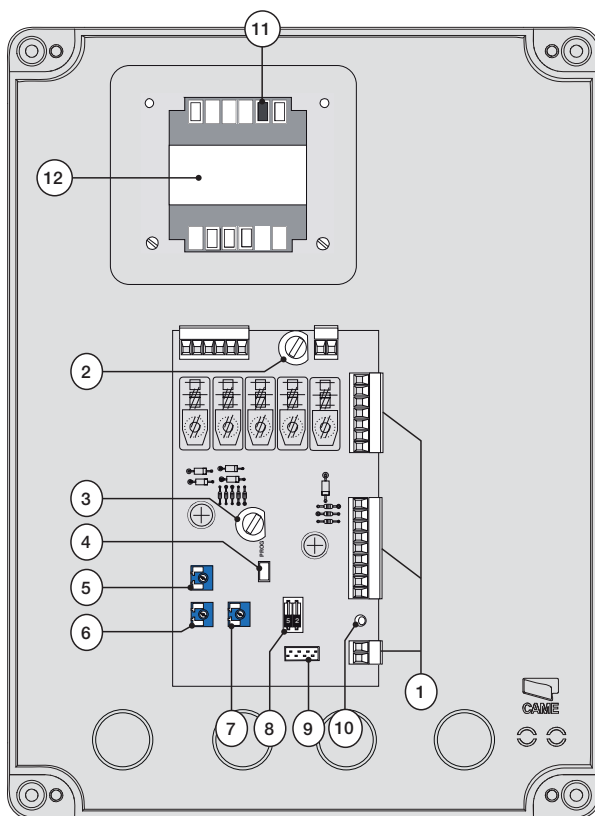
	to protect:	fuses for:
	Electronic board (line)	A 5
	Command devices and accessories (control unit)	3.15A

## 4.1 Dimensions



## 4.2 Main components

1. Connecting terminals
2. 5A line fuse
3. 3.15 A accessories fuse
4. Buttons to memorise radio code
5. Trimmer for adjusting the delay of operator 2
6. Working time adjuster trimmer
7. Automatic closing time adjuster trimmer
8. Functions selector
9. Radio frequency card socket
10. LED
11. Operator torque limiter
12. Transformer



**⚠ Warning!** Before acting on the equipment, cut off the main power supply and disconnect the emergency batteries (if present).

**⚠** Connect the black wires protruding from the card onto condenser connectors.



## 5 Installation

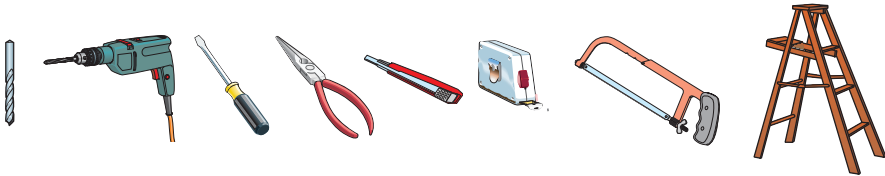
### 5.1 Preliminary checks

**⚠** Before beginning to install, the following is necessary:

- Make sure that the point where the electrical panel is anchored is free from any impacts, and that the surface is solid and that proper tools and materials are used (i.e. screws, wall plugs, etc.).
- Set up a suitable omni polar cut-off device, with distances greater than 3 mm between contacts, with sectioned power source.
- ⚡ Check that any connections inside the container (made for continuity purposes of the protective circuit) are fitted with extra insulation compared to other internal conductive parts.
- Set up proper conduits and electric cable raceways, making sure these are protected from any mechanical damage.

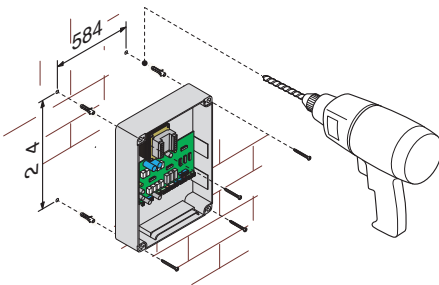
### 5.2 Tools and equipment

Make sure you have all the tools and materials needed to carry out the installation in total safety and in accordance with current regulations. Here are some examples.

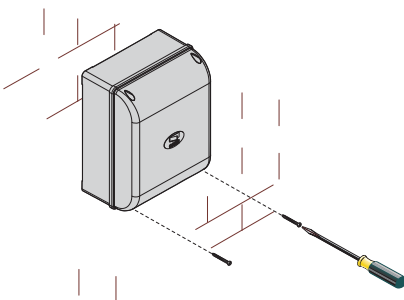


### 5.3 Fastening and mounting the container

1) Secure the base of the panel in a safe area; we suggest using bolts with max. diameter of 6 mm Philips rounded heads.



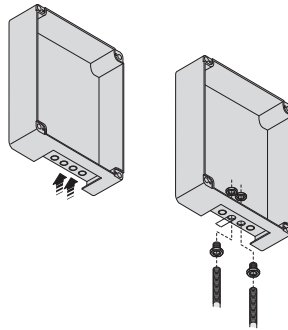
3) After adjusting and setting, secure the cover using the issued screws.



2) Perforate the marked holes and insert the cable glands with corrugated tubes for the electrical cables to run through.

N.B.: the pre-perforated holes have different diameters: 23, 29 and 37 mm.

Careful not to damage the electronic board inside the panel!!

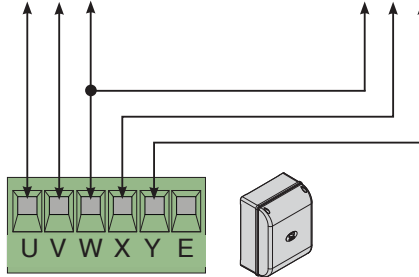


## 6 Electrical connections

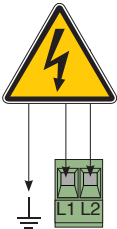
### Operator

Operator 1 delayed when opening

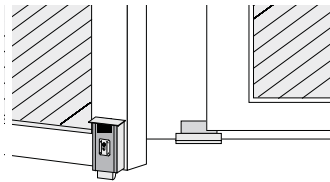
Operator 2 delayed when closing



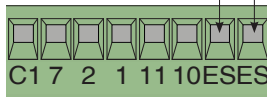
### Power supply



Power supply to the  
230V AC 50/60 Hz  
control panel



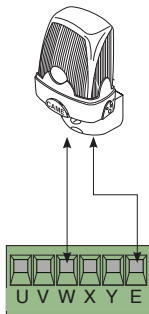
Terminals for powering the  
24V AC accessories. Overall  
allowed power: 20W



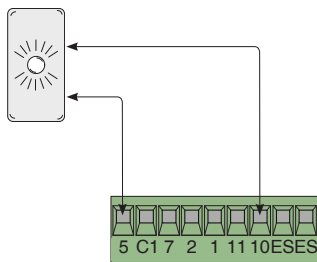
Electro lock connection (12V-15 W max.)

## Warning devices

**Flashing light** (contact rated for: 230V AC - 25W Max.) Flashes while gate opens and closes.



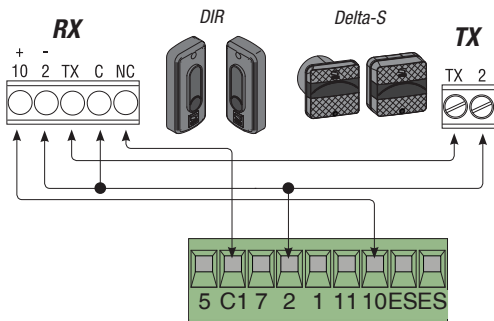
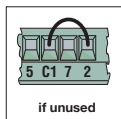
**Gate open warning light** Contact rated for: 24 V - 3 W Max.) Warns of open gate position, turns off when gate is closed.



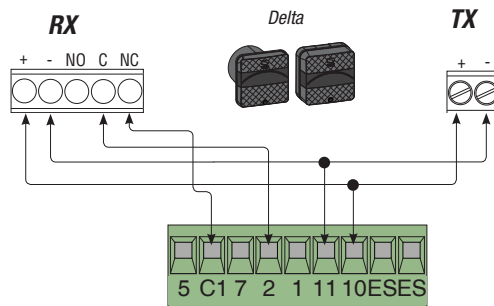
## Safety devices

**C1 = (N.C.) contact** for reopening while closing  
Input for safety devices like photocells, sensitive edges and other devices that comply with EN 12978 regulations. While the door is closing, opening the contact will invert movement until it is fully opened.

if unused, short-circuit contact 2-C1.



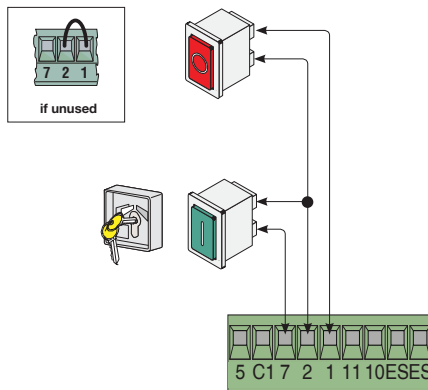
**C1 = (N.C.) contact** for reopening while closing



**Stop button (N.C. contact)**

Gate stop button with exclusion of automatic closing, to resume movement press command button or transmitter button.

If unused, short-circuit contact 1-C2.

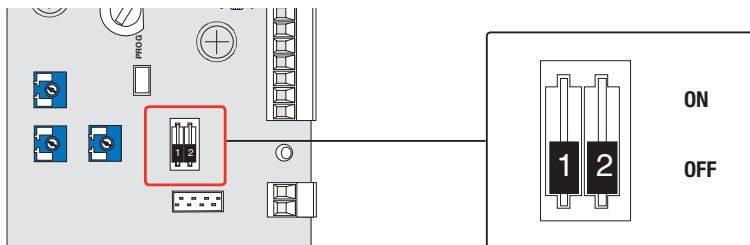


**Key switch selector and/or command button (N.O. contact)**

Commands for opening and closing, by pressing the button or turning the selector switch key.

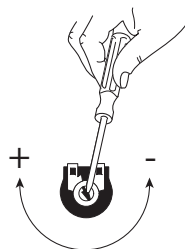
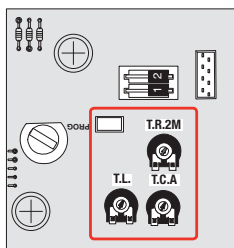
p. 7 - Manual code: 319569 ver. 2.0 11/2011 © 11/2011 © CAME cancelli automatici s.p.a. - The data and information in this manual may be changed at any time and without obligation on the part of CAME cancelli automatici s.p.a. to notify said changes.

## 7 Selecting functions



- 1 ON - Automatic closing activated; (10FF - deactivated)
- 2 ON - "Open-stop-close-stop" with (2-7) button and radio transmitter;
- 2 OFF - "Open-close" with button (2-7) and radio transmitter activated.

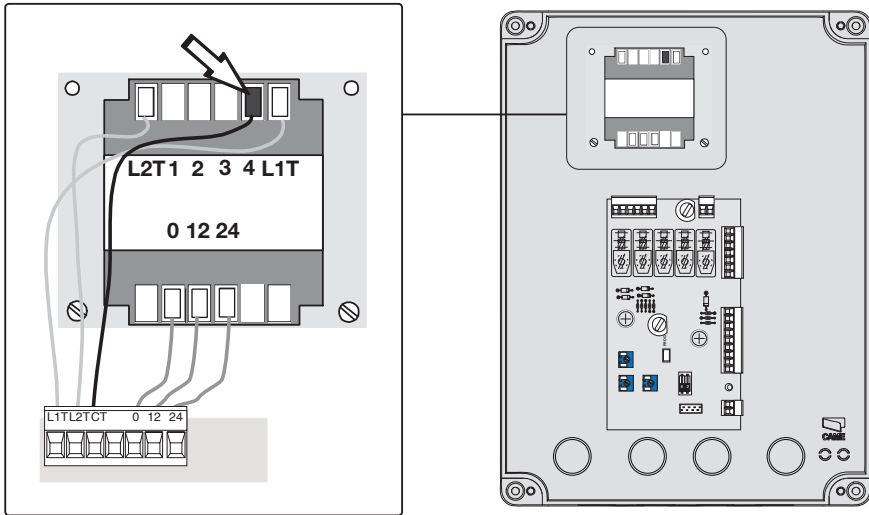
## 8 Settings



- Trimmer T.R.2M.** = Adjusting the delay of operator 2 from 1 minute to 10 seconds.
- Trimmer T.L.** = Adjusting the working time from 15 seconds to 120 seconds. (Note: adjusting the working time to the minimum will activate the "maintained action" function).
- Trimmer T.C.A.** = Adjusting automatic opening and closing times from 0 seconds to 120 seconds.

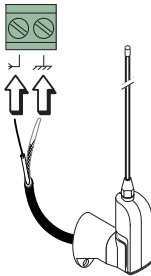
## 9 Motor torque limiter

To change motor torque, move the faston (the one with the black wire) to one of the four settings; 1 min. - 4 max.



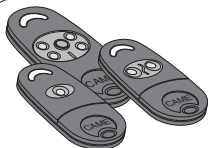
## 10 Activating the radio command

### Antenna



Connect RG58 antenna cable to the apposite terminals.

### Transmitters



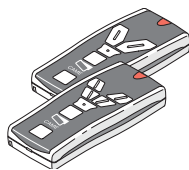
**ATOMO**  
AT01 • AT02  
AT04

see instruction sheet in the packaging  
of the AF43SR radio-frequency card

see instructions on box

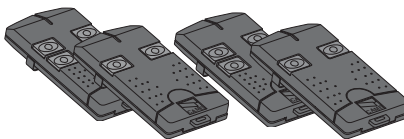
**TOUCH**

TCH 4024 • TCH 4048



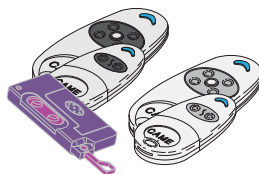
**TOP**

TOP-432A • TOP-434A  
TOP-302A • TOP-304A



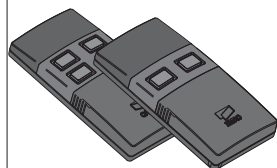
**TOP**

TOP-432NA • TOP-434NA  
TOP-862NA • TOP 864NA  
TOP-432S



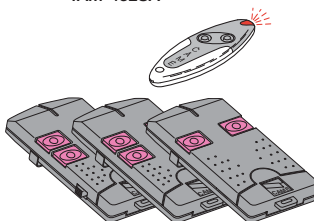
**TWIN**

TWIN 2 • TWIN 4



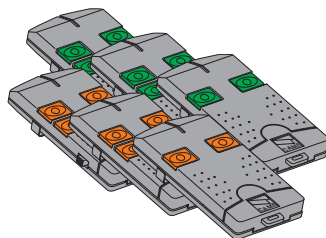
**TAM**

T432 • T434 • T438  
TAM-432SA



**TFM**

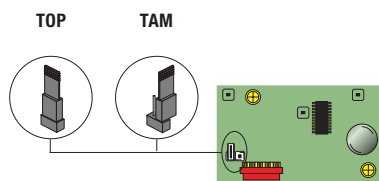
T132 • T134 • T138  
T152 • T154 • T158



**Radio frequency card**

Only for the AF43S / AF43SM radio-frequency cards.

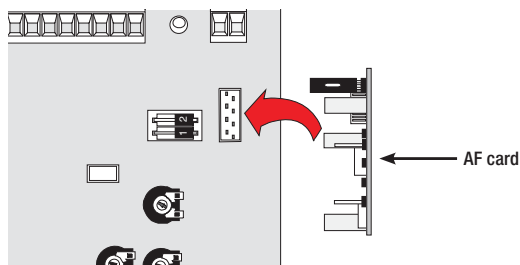
- position jumper as shown depending on the series of transmitters you are using.



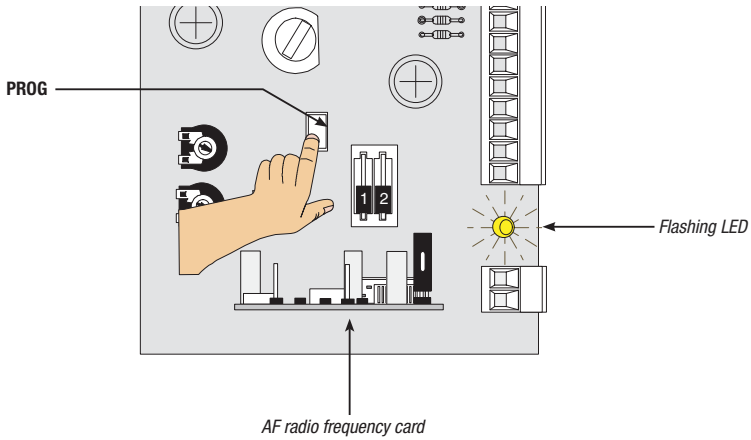
Frequency MHz	Card Radio-frequency	Series transmitters
FM 26.995	AF130	TFM
FM 30.900	AF150	TFM
AM 26.995	AF26	TOP
AM 30.900	AF30	TOP
AM 433.92	AF43S / AF43SM	TAM / TOP
AM 433.92	AF43TW	TWIN (KeyBlock)
AM 433.92	AF43SR	ATOMO
AM 40.685	AF40	TOUCH
AM 863.35	AF868	TOP

Plug in the radio-frequency card onto the electronic board AFTER CUTTING OFF THE MAIN POWER SUPPLY (and disconnecting the emergency batteries).

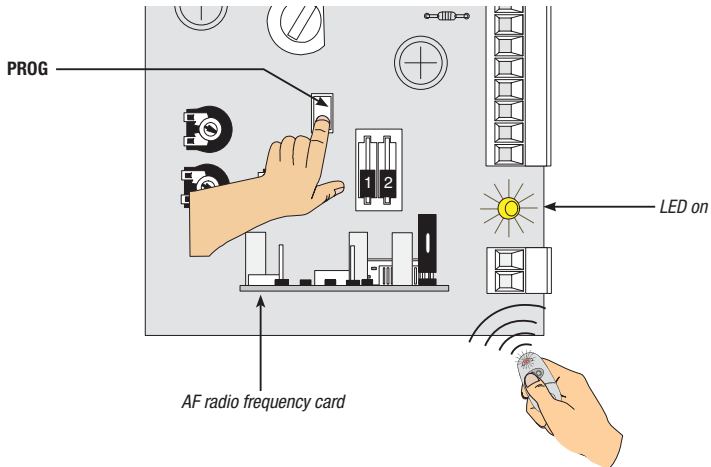
N.B.: The control board recognises the radio-frequency card only when it is powered up.



1) Keep pressed the "CH1" button on the control board (the LED light flashes).



2) The transmitter button sends the code, and the LED will stay on to signal that memorisation was successful.



N.B.: if you later wish to change code, repeat the sequence described.