



ENTRE//MATIC



CROSS

IP1747EN- rev. 2011-09-07



**Installation and
maintenance manual
for automations
for sliding gates.**

(Translation of the original instructions)



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CAPTION



This symbol indicates instructions or notes regarding safety issues which require particular attention.



This symbol indicates informations which are useful for correct product function.



This symbol indicates instructions or notes intended for technical and expert personnel.



This symbol indicates operations not to be effected for not compromise the correct operation of the automation.



This symbol indicates options and parameters which are only available with the indicated item.



This symbol indicates options and parameters which are not available with the indicated item.

All right reserved

All data and specifications have been drawn up and checked with the greatest care. The manufacturer cannot however take any responsibility for eventual errors, omissions or incomplete data due to technical or illustrative purposes.

1. GENERAL SAFETY PRECAUTIONS



This installation manual is intended for professionally competent personnel only.

Installation, electrical connections and adjustments must be performed in accordance with Good Working Methods and in compliance with applicable regulations.

Before installing the product, carefully read the instructions. Bad installation could be hazardous. The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as these are a potential source of hazard.

Before installing the product, make sure it is in perfect condition.

Do not install the product in an explosive environment and atmosphere: gas or inflammable fumes are a serious hazard risk.

Before installing the motors, make all structural changes relating to safety clearances and protection or segregation of all areas where there is risk of being crushed, cut or dragged, and danger areas in general.

Make sure the existing structure is up to standard in terms of strength and stability. The motor manufacturer is not responsible for failure to use Good Working Methods in building the frames to be motorized or for any deformation occurring during use.

The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account: applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorized gate.

The safety devices must protect any areas where the risk exists of being crushed, cut or dragged, or where there are any other risks generated by the motorized gate.

Apply hazard area notices required by applicable regulations.

Each installation must clearly show the identification details of the motorized gate.



Before making power connections, make sure the plate details correspond to those of the power mains.

Fit an omnipolar disconnection switch with a contact opening gap of at least 3 mm.

Make sure an adequate residual current circuit breaker and overcurrent cutout are fitted upstream of the electrical system. When necessary, connect the motorized gate to a reliable earth system made in accordance with applicable safety regulations.

During installation, maintenance and repair, interrupt the power supply before opening the lid to access the electrical parts.



To handle electronic parts, wear earthed antistatic conductive bracelets. The motor manufacturer declines all responsibility in the event of component parts being fitted that are not compatible with the safe and correct operation.

For repairs or replacements of products only original spare parts must be used. The installer shall provide all information relating to automatic, manual and emergency operation of the motorized gate, and provide the user with operating instructions.

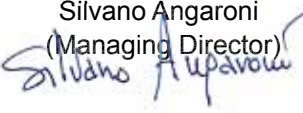
2. DECLARATION OF INCORPORATION OF PARTLY COMPLETED MACHINERY

(Directive 2006/42/EC, Annex II-B)

The manufacturer DITEC S.p.A. with headquarters in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY declares that the automation system for CROSS5-CROSS7-CROSS8 sliding gates:

- has been constructed to be installed on a manual gate to construct a machine pursuant to the Directive 2006/42/EC. The manufacturer of the motorized gate shall declare conformity pursuant to the Directive 2006/42/EC (annex II-A), prior to the machine being put into service;
- conforms to applicable essential safety requirements indicated in annex I, chapter 1 of the Directive 2006/42/EC;
- conforms to the Low Voltage Directive 2006/95/EC;
- conforms to the Electromagnetic Compatibility Directive 2004/108/EC;
- technical documentation conforms to annex VII-B to the Directive 2006/42/EC;
- the technical file is managed by Renato Calza with offices in Via Mons. Banfi, 3 - 21042 Caronno Pertusella (VA) - ITALY;
- a copy of technical documentation will be provided to national competent authorities, following a suitably justified request.

Caronno Pertusella, 17-09-2010

Silvano Angaroni
(Managing Director)


2.1 Machinery Directive

Pursuant to Machinery Directive (2006/42/CE) the installer who motorises a door or gate has the same obligations as the manufacturer of machinery and as such must:

- prepare the technical file which must contain the documents indicated in Annex V of the Machinery Directive; (The technical file must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorized gate);
- draft the EC declaration of conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the CE marking on the power operated gate in accordance with point 1.7.3 of Annex I of the Machinery Directive.

3. TECHNICAL DATA

	CROSS5EH CROSS5EH1	CROSS7E	CROSS7EH CROSS7EH1	CROSS8E
Power supply	230 V~ / 50-60 Hz	230 V~ / 50-60 Hz	230 V~ / 50-60 Hz	230 V~ / 50-60 Hz
Absorption	1,2 A	2 A	1,5 A	3 A
Thrust	400 N	700 N	600 N	800 N
Condenser	/	16 µF	/	22 µF
Wing speed	0,09÷0,21 m/s	0,18 m/s	0,12÷0,20 m/s	0,18 m/s
Maximum run	20 m	20 m	20 m	20 m
Max wing weight	450 kg	600 kg	600 kg	800 kg
Service class	4 - INTENSE	4 - INTENSE	4 - INTENSE	4 - INTENSE
Intermittence	S2 = 30 min S3 = 50%	S2 = 20 min S3 = 50%	S2 = 30 min S3 = 50%	S2 = 20 min S3 = 50%
Temperature	-20° C / +55° C	-20° C / +55° C	-20° C / +55° C	-20° C / +55° C
Degree of protection	IP24D	IP24D	IP24D	IP24D
Control panel	EL31R	E1A	EL31R	E1A

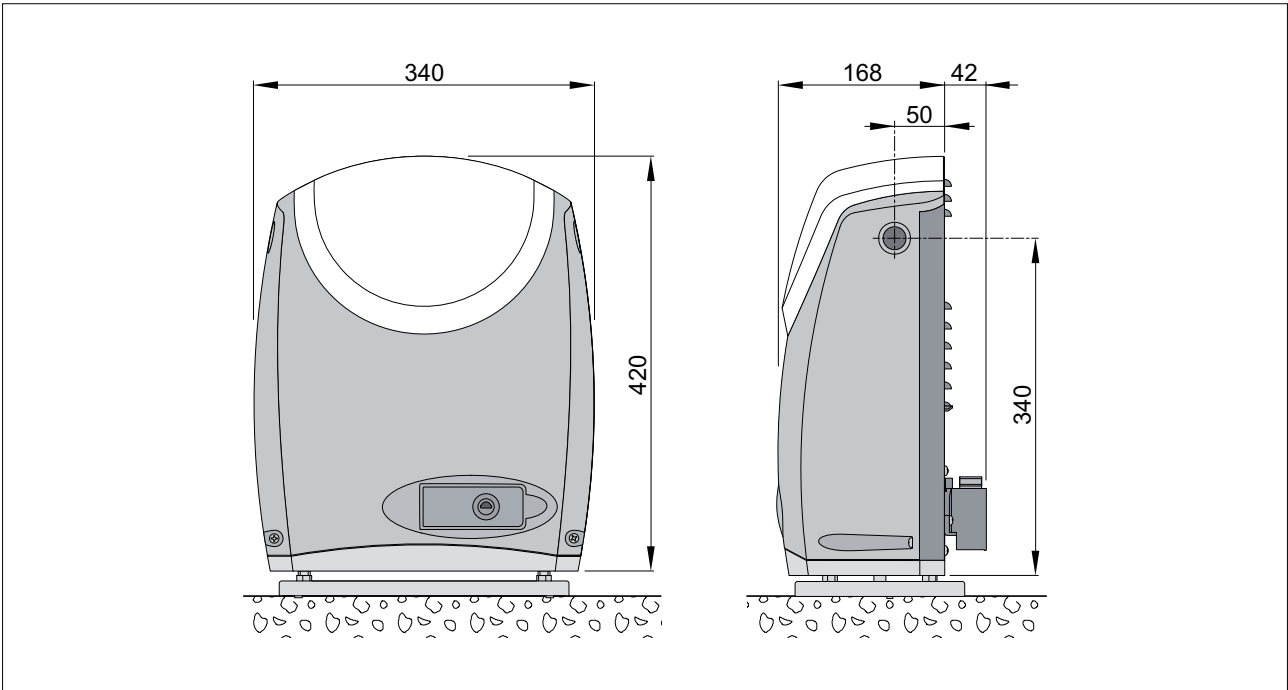
3.1 Operating instructions

Service class: 4 (minimum 10÷5 years of working life with 100÷200 cycles per day).

Applications: INTENSE (for condominium, industrial and commercial entrances, parking spaces with intense vehicle or pedestrian access).

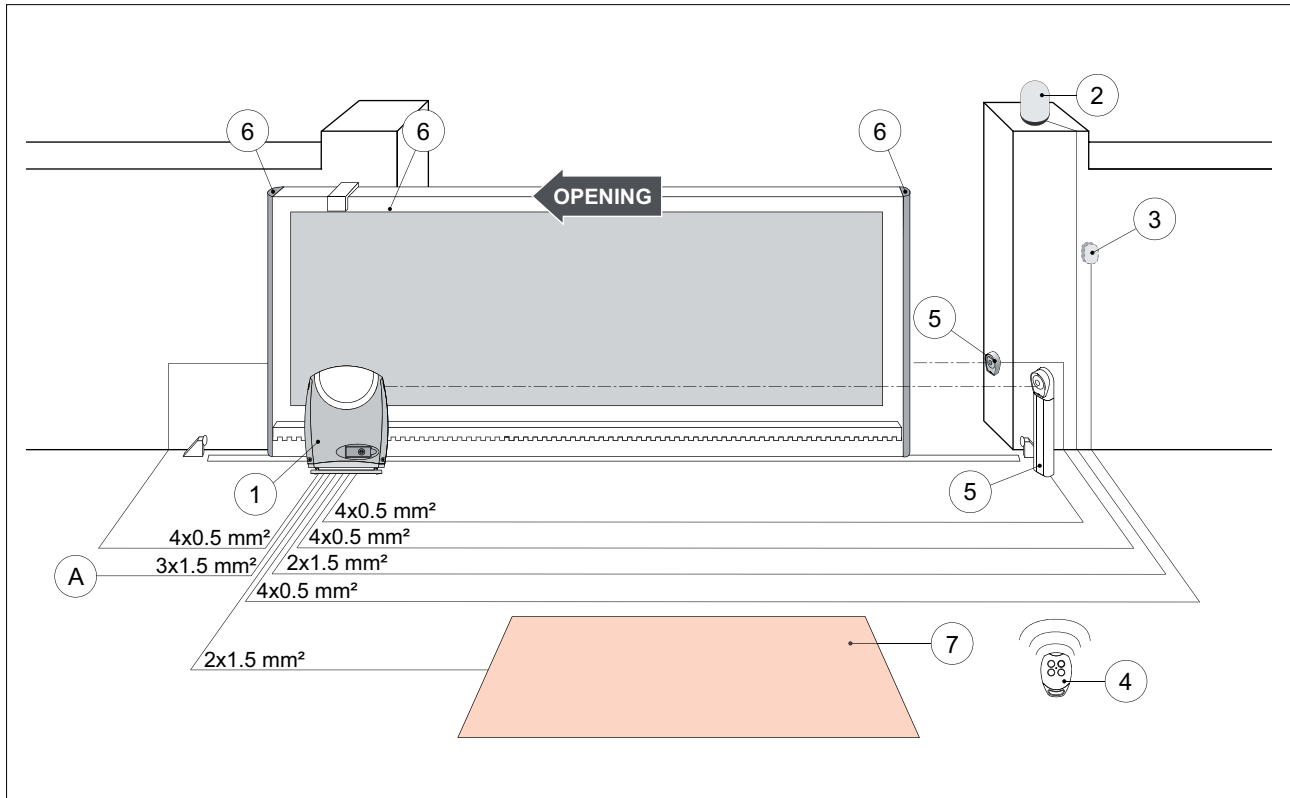
- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). When used with the maximum permissible weight a reduction in the above mentioned performance can be expected.
- Service class, running times, and the number of consecutive cycles are to be taken as merely indicative. Having been statistically determined under average operating conditions, and are therefore not necessarily applicable to specific conditions of use.
- Each automatic entrance has variable elements such as: friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic entrance or curtail its working life or parts thereof (including the automatic devices themselves). The installer should adopt suitable safety conditions for each particular installation.

3.2 Dimensions



NOTE: unless otherwise specified, all measurements are expressed in millimetres (mm).

4. STANDARD INSTALLATION

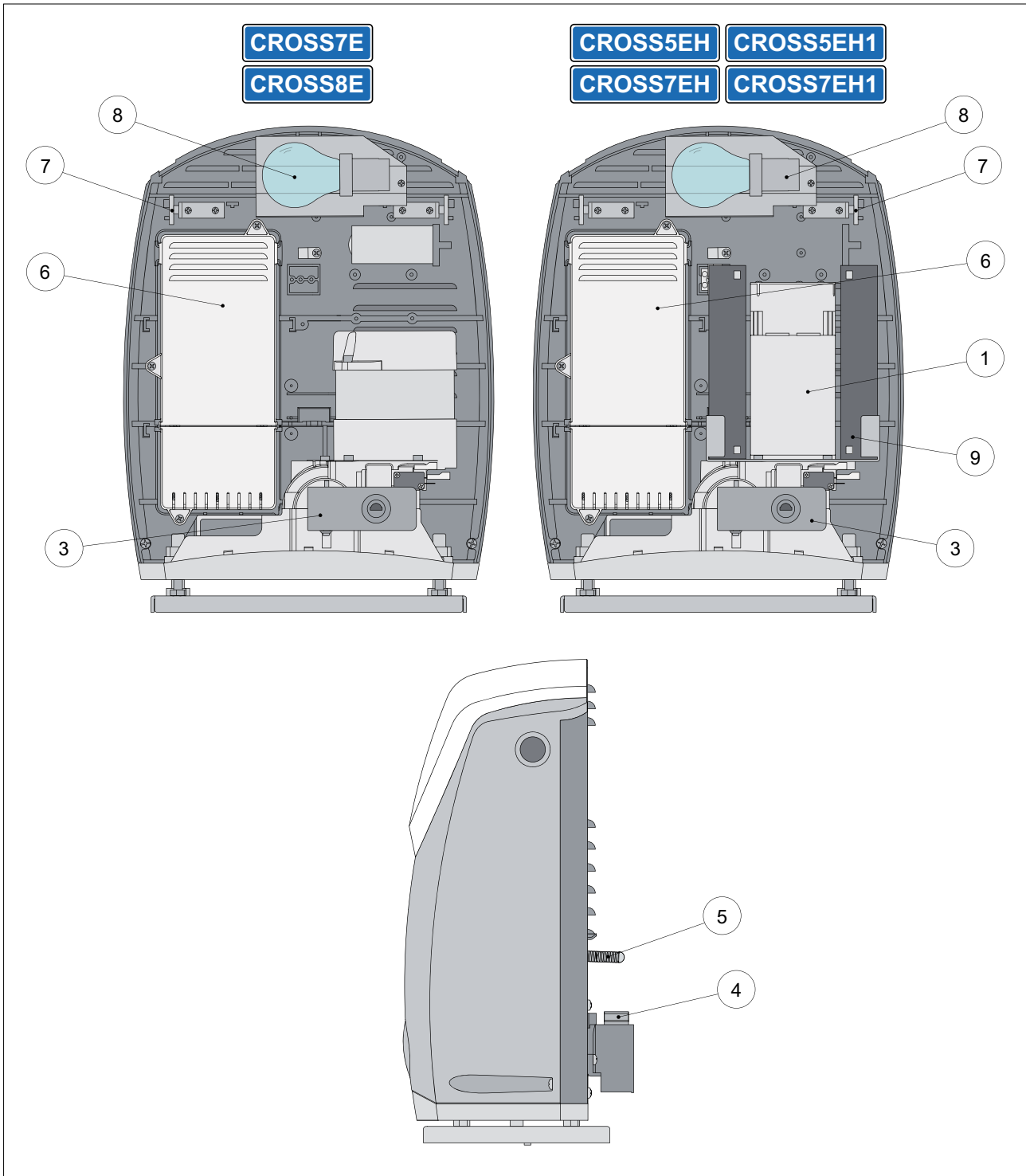


Ref.	Code	Description
1	CROSS5EH CROSS5EH1 CROSS7E CROSS7EH CROSS7EH1 CROSS8E	Motor + control panel Motor + control panel (with mechanical limit switch) Motor + control panel Motor + control panel Motor + control panel (with mechanical limit switch) Motor + control panel
2	LAMPH LAMP	Flashing light
3	XEL5 LAN4 LAN7	Key selector switch Combination keyboard Card decoder
4	GOL4	Radio
5	XEL2 LAB4 LAB4S XELCB	Photocells Photocell column
6	SOFA-SOFB LAB4AV GOPAV	Safety edge Infrared system for safety edges Radio system for safety edges
7	LAB9	Magnetic loop detection device for traffic monitoring
A		Connect the power supply to an approved omnipolar switch with an opening distance of the contacts of at least 3mm (not supplied). The connection to the mains must be made via an independent channel, separated from the connections to command and safety devices.



NOTE: the given operating and performance features can only be guaranteed with the use of DITEC accessories and safety devices.

5. MAIN COMPONENTS



Ref.	Code	Description
1		24 V= motor with encoder
2		230 V~ motor
3		Key release
4		Pinion
5		Limit-switch spring
6		Control panel
7	CROSS7SF	Photocell support
8	LUXK7	Courtesy light kit
9	BATK7	Battery kit

6. MECHANICAL INSTALLATION

Check the stability of the wing (derailing and lateral falls) and the sliding wheels and that the upper guides do not cause any friction.

The sliding guide must be securely fixed to the ground for the full length within the doorway and must have no irregularities that could hinder the movement of the gate.

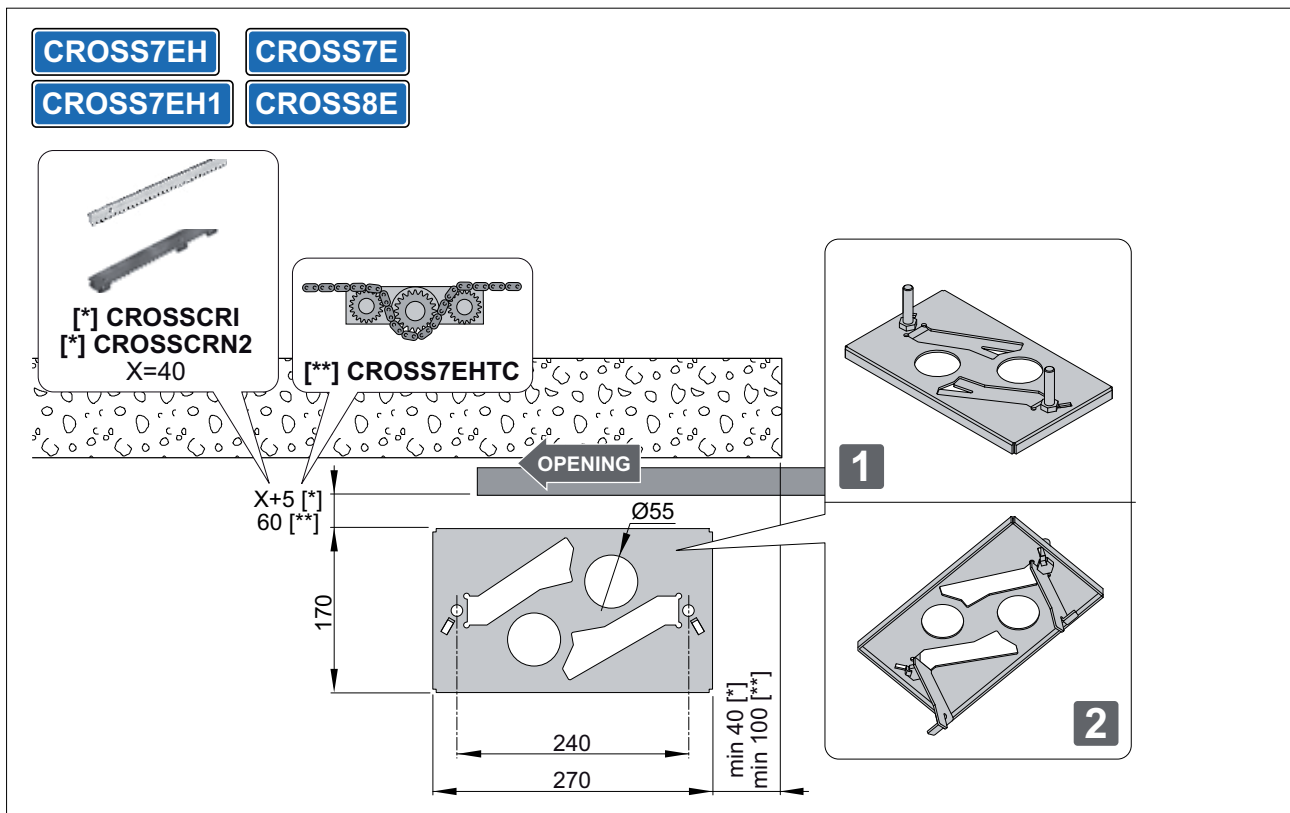
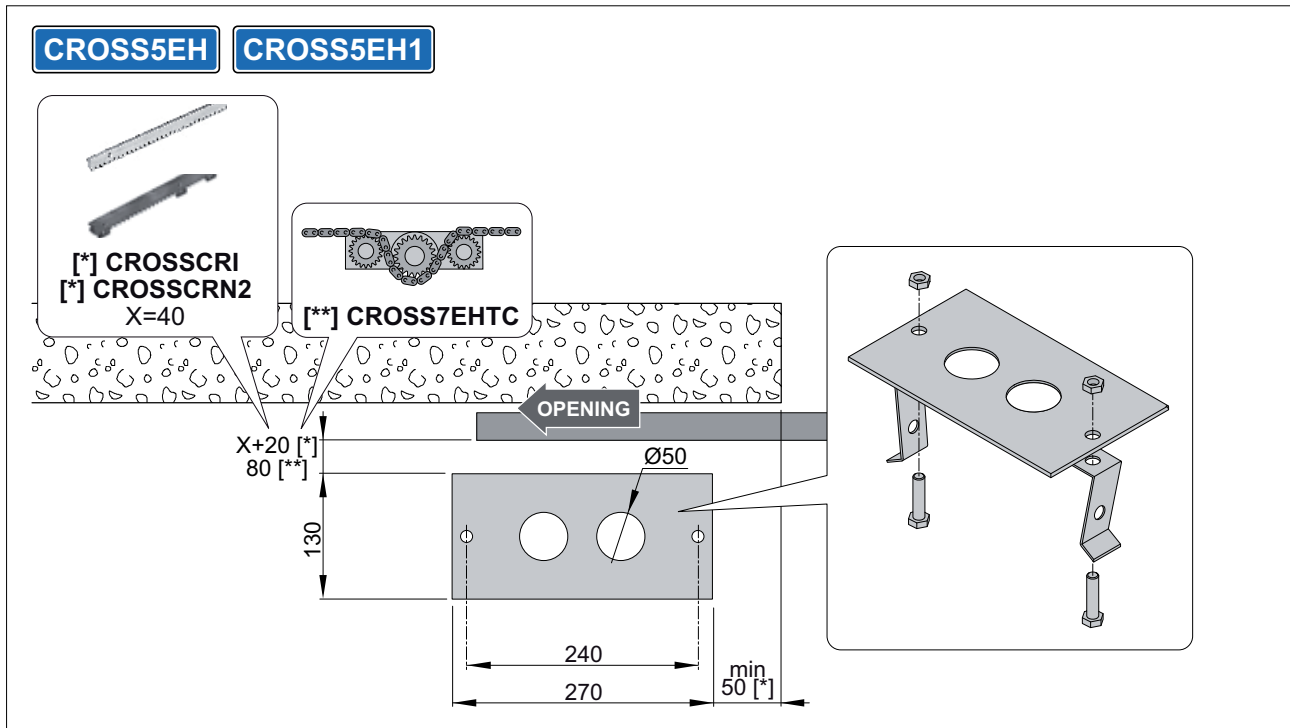
The opening and closing stops must be fitted.

NOTE: make sure that the gate can not exit the sliding guides and fall.

If the gate has slits, make sure they are covered to prevent shearing points.

Safety device should be installed at the end of the wing to reduce the collision force.

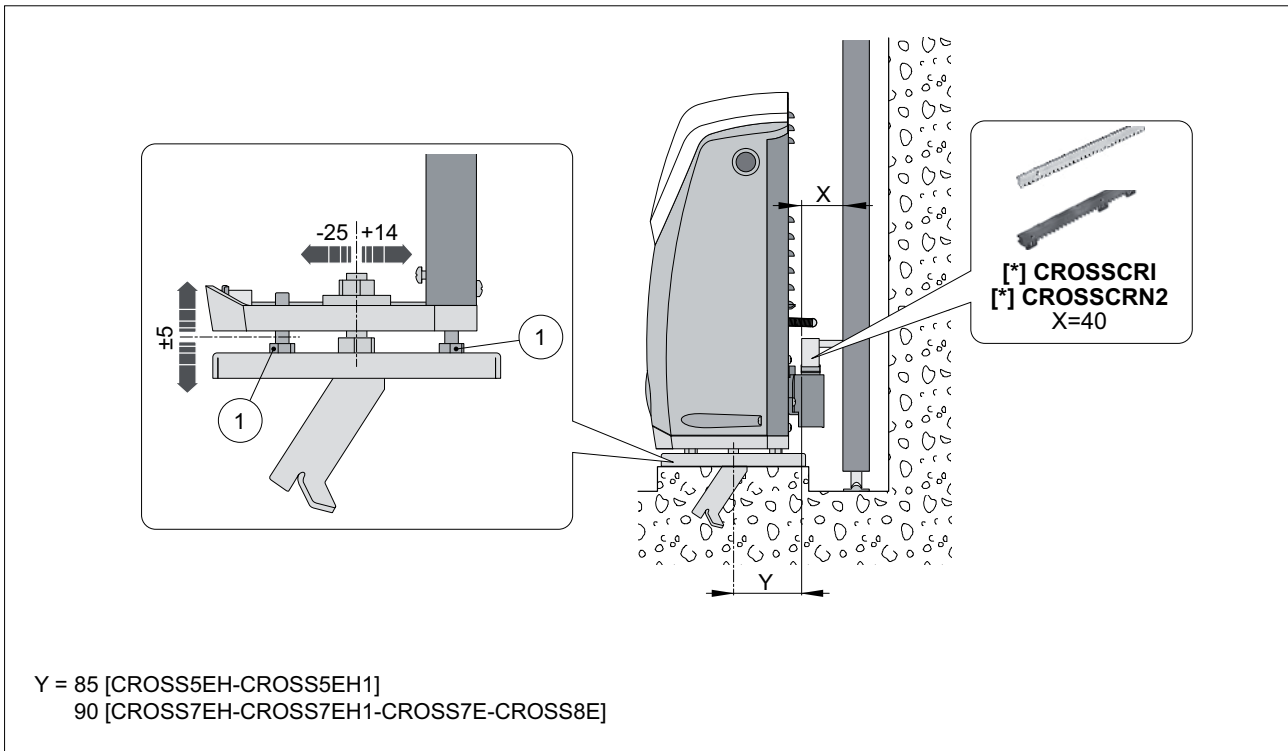
6.1 Position of base plate



- [CROSS5EH-CROSS5EH1] Insert the anchor brackets onto the base plate and fix them with the supplied nuts.
- [CROSS7EH-CROSS7EH1-CROSS7E-CROSS8E] Insert the screws in the base plate, secure them with the gippy nuts and then bend the metal tab to prevent the screw from coming out. Extract the preformed clamps with a downwards movement using a hammer to ensure correct anchorage to the concrete.
- Make a concrete base with the anchor brackets and base plate embedded, which must be level and clean, following the measurements indicated in the figure.

NOTE: if the cement area is already present, adjustable SUPCS base can be used.

6.2 Geared motor installation



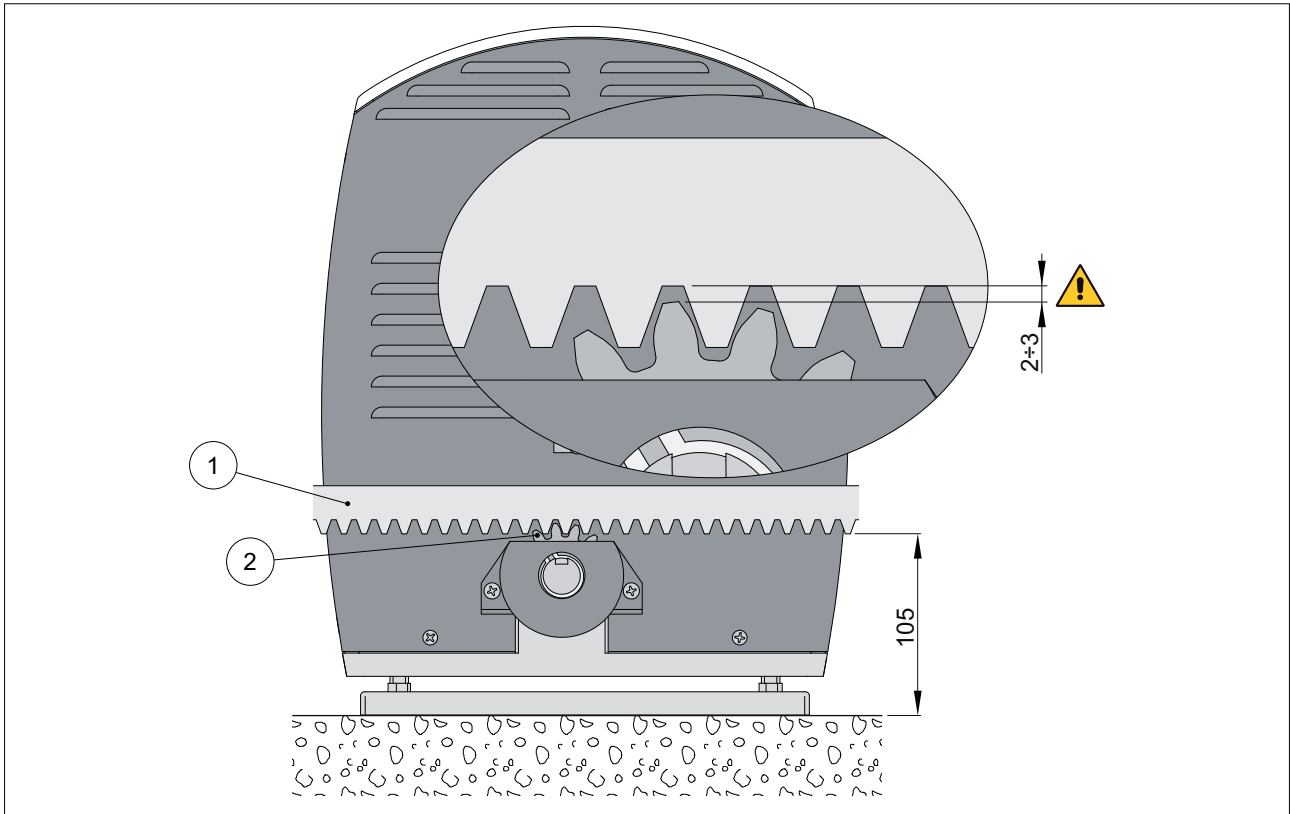
- Unlock the gearmotor (see OPERATING INSTRUCTIONS) and remove the key. Loosen the three front screws and remove the casing by lifting it slightly.
- Place the gearmotor onto the base plate.
- Adjust the gearmotor horizontally by sliding it along the slots of the gearmotor base and vertically with the four levelling screws [1].

NOTE: for the vertical adjustment, keep the gearmotor slightly raised from the base plate so that the rack can be fixed and subsequent adjustments are possible.



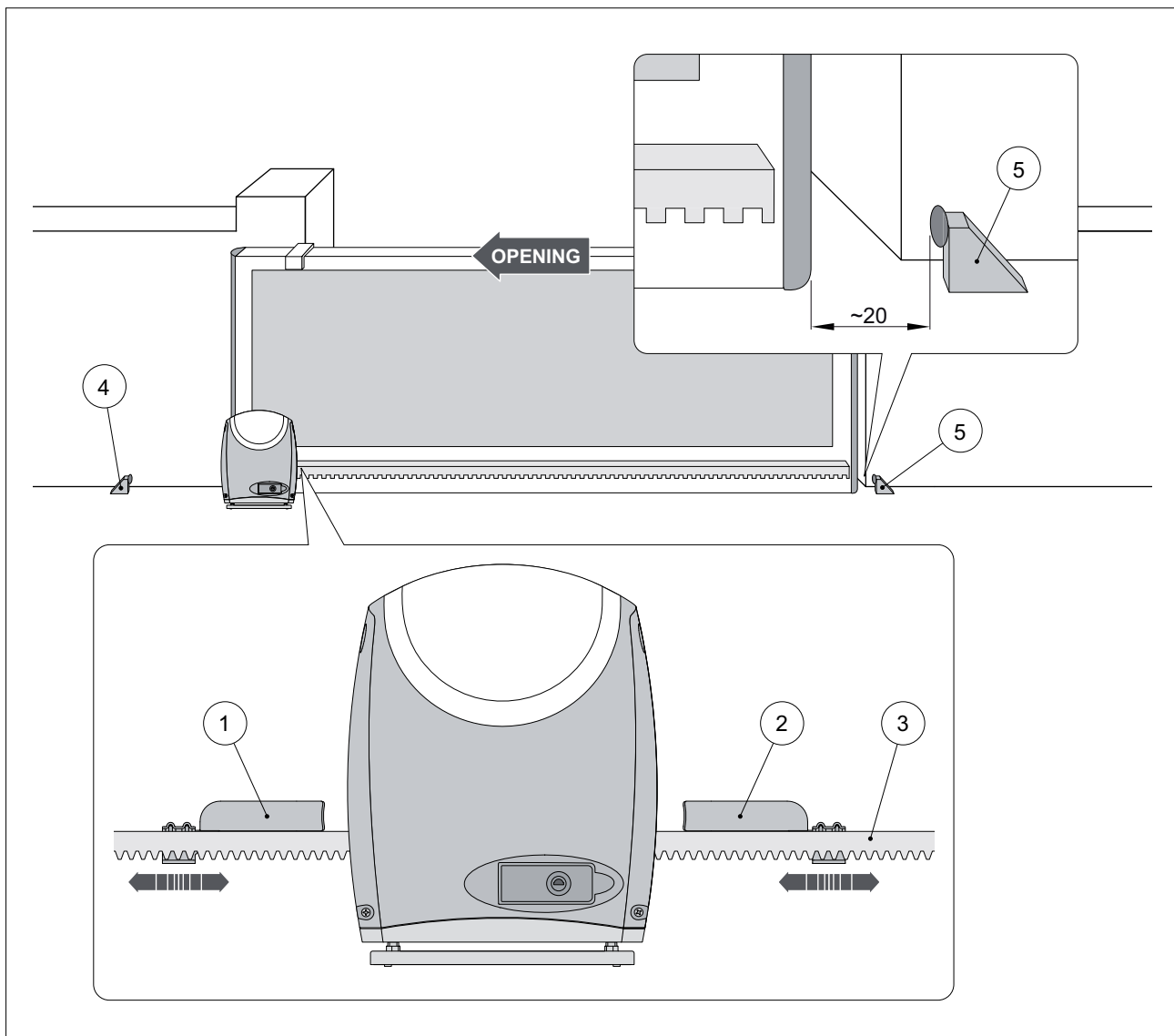
WARNING: the gearmotor must be suitably raised from the ground to avoid flooding.

6.3 Rack installation



- Unlock the gearmotor (see OPERATING INSTRUCTIONS) and open the gate.
- Rest the rack [1] on the pinion [2] and by manually sliding the gate, fix it along its entire length.
- Once fixing is complete, vertically adjust the gearmotor so that there is a clearance of 2-3 mm between the pinion [2] and the rack [1].
- Lock the gearmotor.
- Slightly lubricate the rack [1] and pinion [2] after assembly. Manually check that the gate slides evenly and without friction.

6.4 Limit switch adjustment



- Manually place the wing in an open position and fix the limit switch brackets [1] and [2] onto the rack [3] so that the lever stop exceeds the length of the bracket by approximately 2/3. Repeat with the wing in a closed position.
- After having carried out a few operations, adjust the position of the limit switch brackets [1] and [2] so that the gate stops approximately 20 mm before the opening [4] and closing [5] end stops.

NOTE: (Only CROSS5EH-CROSS7EH) the limit switch kit is optional and it is used to stop the gate before the opening and closing stops. When limit switch is present, slow down is carried out at maximum power to overcome possible friction.

6.5 Operation by encoder

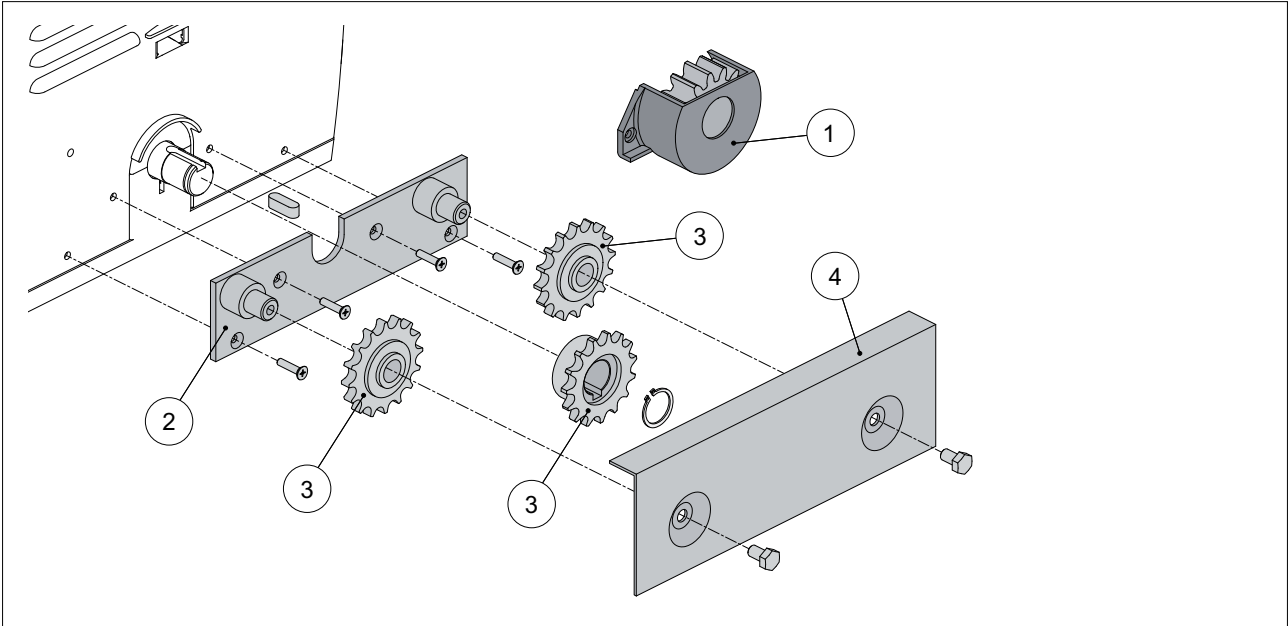
CROSS5EH-CROSS7EH gearmotors do not require limit switches because they have encoders.

Mechanical opening [4] and closing [5] end stops must be installed.

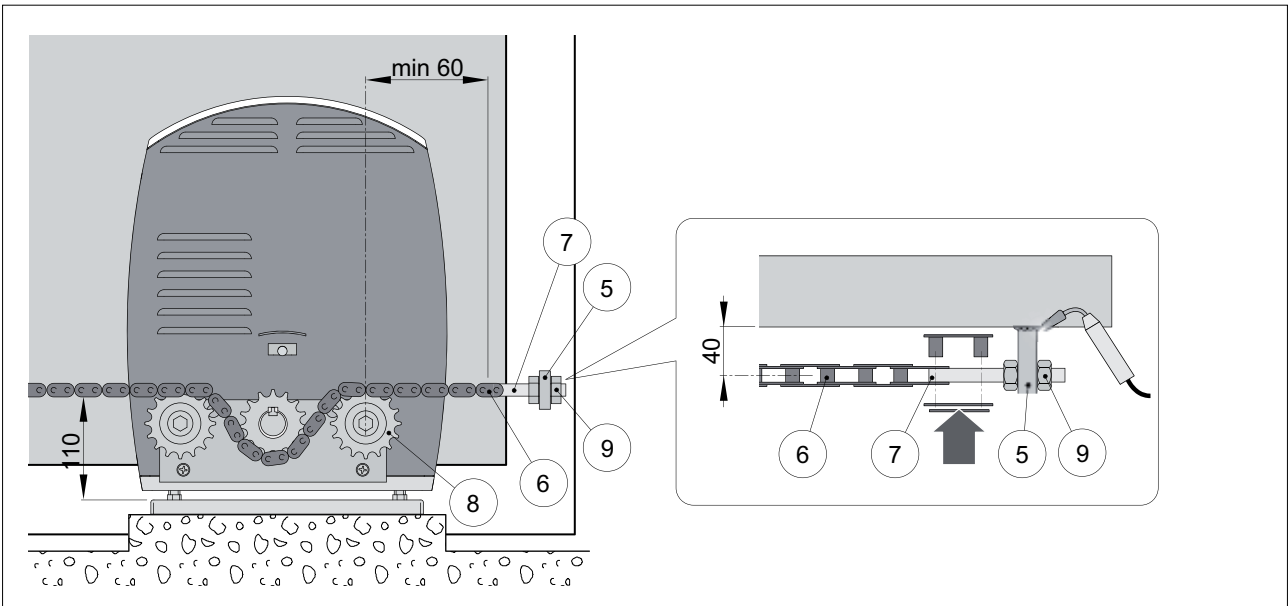
The gate automatically slows down when approaching the end stops.

WARNING: upon reaching the opening or closing limit stop, the gate performs a brief disengaging maneuver (moving reversal) to facilitate the manual release of the geared motor.

7. CROSS7EHTC CHAIN DRIVE KIT INSTALLATION



- Unlock the gearmotor (see OPERATING INSTRUCTIONS).
- Remove the pinion [1].
- Fix the pinion supporting plate [2] to the gearmotor.
- Insert the pinions [3] as indicated in the figure.
- Manually pass the chain between the pinions.
- Fix the cover plate [4].

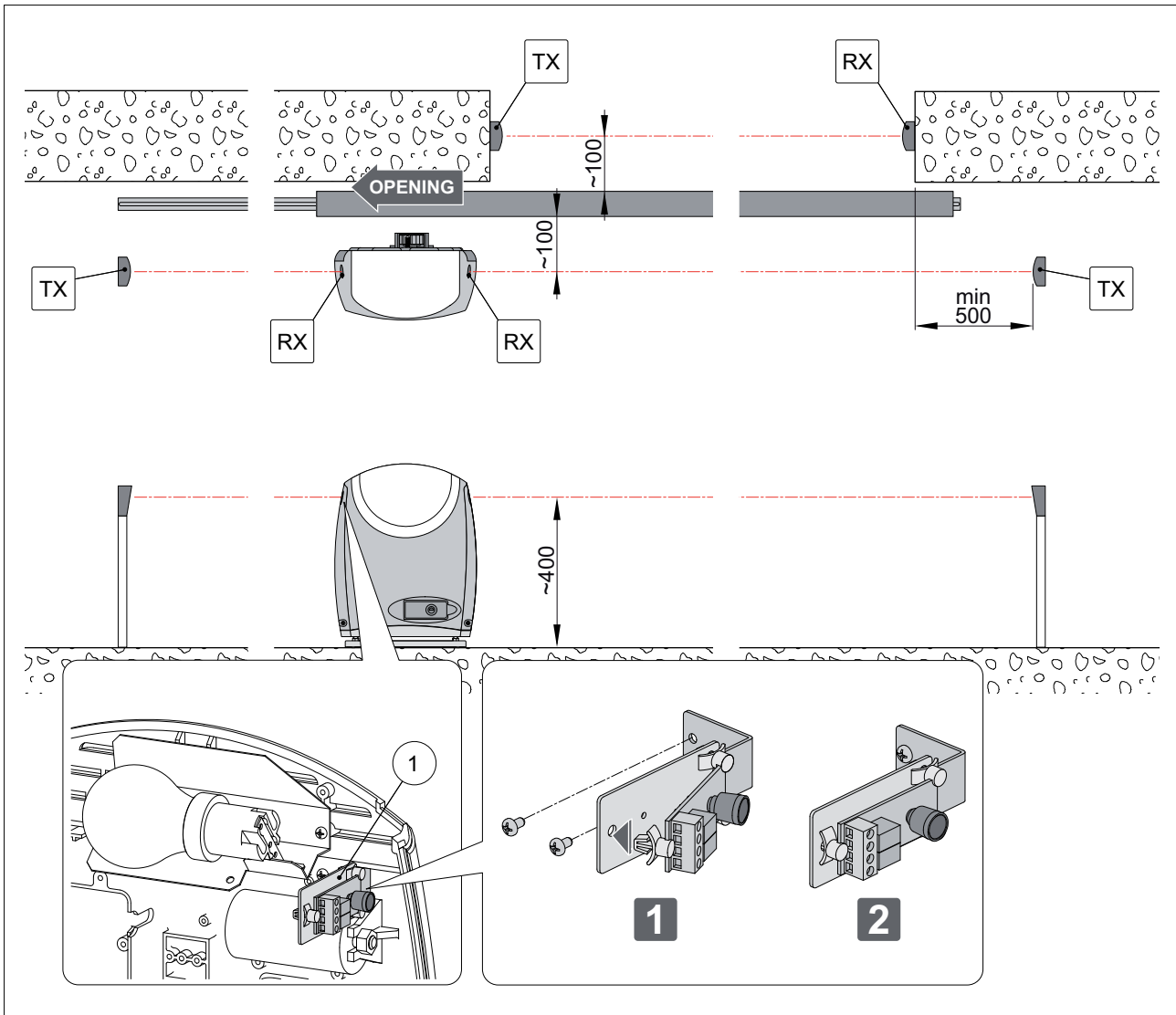


- Manually move the wing into the open position and fix the brackets [5] onto the wing as illustrated in the figure.
- Connect chain [6], which was previously assembled on the gearmotor, to tie rod [7] and fix it to bracket [5].
- Fix bracket [5] on the opposite side of the gate. Connect the chain [6] to the tie rod [7] and fix it to bracket [5] (cut the excess chain).
- NOTE: make sure that the distance between the pinion centre [8] and tie rod [7] is correct when the gate is fully open and closed.*
- Secure the gearmotor with the nuts [9].
- Tighten the chain [6] with the tie rods [7].
- Slightly lubricate the chain [6] and pinions after assembly.



WARNING: when fitting the CROSS7EHTC chain drive kit, the direction of the gearmotor is inverted.

8. CROSS7SF PHOTOCELL SUPPORT INSTALLATION



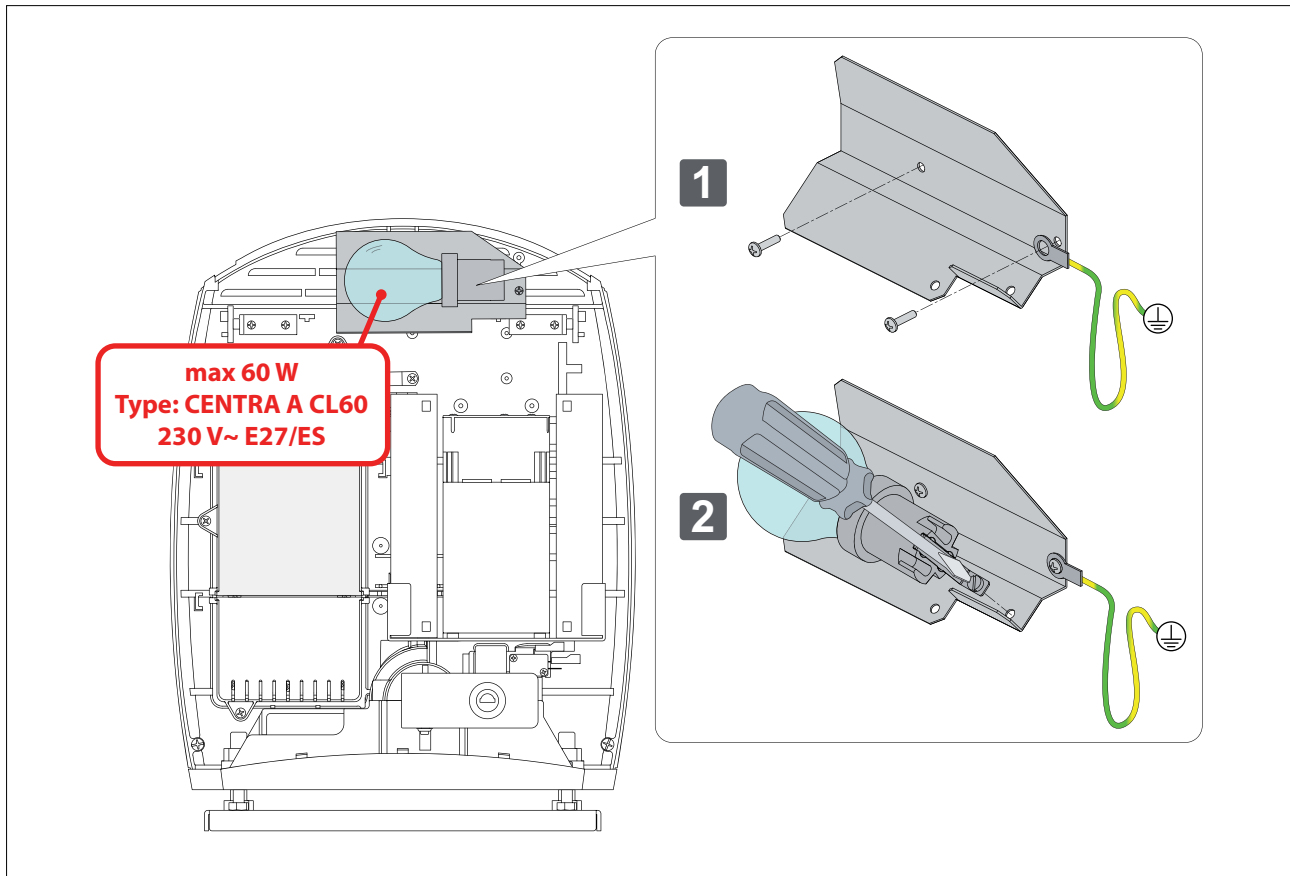
Additional photocells can be installed inside the gearmotor casing to protect both opening and closing movements by using the CROSS7SF photocell support kit.

Fit a receiver (RX) or a transmitter (TX) on the bracket [1] provided as shown in the figure.

Installation of the photocells must comply with standards EN12453 and EN12445.

WARNING: the photocell receiver (RX) and transmitter (TX) may also be installed at two different heights, the maximum permissible difference in height being 300 mm.

9. LUXK7 COURTESY LIGHT KIT INSTALLATION



The courtesy light can be installed inside the gearmotor casing using the LUXK7 courtesy light kit. For installation and connection, carry out the operations shown in the figure.

The courtesy lamp can be enabled or disabled using a GOL4 radio remote control and memorising the CH3 channel (see control panel instructions).



WARNING: connect the yellow-green ground cable to the clamp already connected to the motor, as indicated in the figure.

10. BATK7 BATTERY KIT INSTALLATION

The BATK7 battery kit can be installed to allow the gate to continue working even when the power supply fails. Place the batteries in the gearmotor and secure them using the special support brackets (see BATK7 battery kit instructions).



NOTE: when not in use, batteries are kept charged by means of the control circuit.

11. ELECTRICAL CONNECTIONS

The electrical connections and start-up of the automations CROSS7E and CROSS8E are illustrated in the installation manual of the E1A control panel.

The electrical connections and start-up of the automations CROSS5EH-CROSS5EH1 and CROSS7EH-CROSS7EH1 are illustrated in the installation manual of the EL31R control panel.

230 V~ cables (power supply, flashing light and external courtesy light) are to be positioned on the right of the control panel.

24 V= cables (safeties, controls and external antenna) are to be positioned on the left of the control panel.



WARNING: connect the yellow-green ground cable to the clamp already connected to the motor.

12. ROUTINE MAINTENANCE PLAN

Perform the following operations and checks every 6 months according to intensity of use of the automation.

Disconnect the 230 V~ power supply and batteries (if present) and release the gearmotor:

- Visually check that the gate, the fixing brackets and existing structure have suitable mechanical strength and are in good condition.
- Check the gate-gearmotor alignment, the distance (2-3 mm) between the throat of the pinion and the crest of the rack.
- Clean the wheel's sliding guide, the rack and pinion of the gear motor and slightly lubricate the rack and pinion of the gearmotor. Manually check that the gate slides evenly and without friction.
- [CROSS7E-CROSS8E] Check the value of the capacity of the motor condenser.

Reconnect the 230 V~ power supply and batteries (if present) and block the gearmotor:

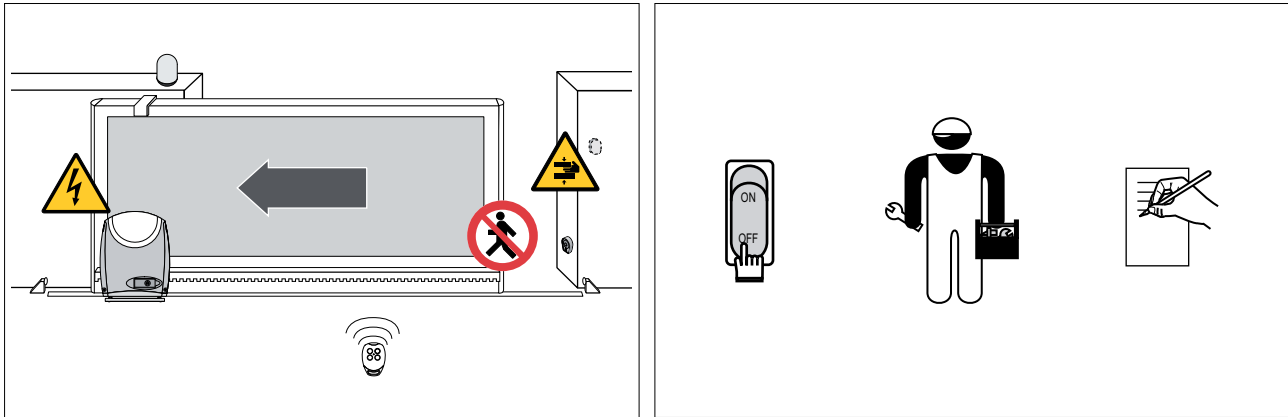
- Check that the limit switches are working correctly.
- Check the power adjustment.
- Check that all control and safety functions are working correctly.



NOTE: for spare parts, see the spares price list.



13. OPERATING INSTRUCTIONS



13.1 General safety precautions

The following precautions are an integral and essential part of the product and must be supplied to the user. Read them carefully since they contain important information on safe installation, use and maintenance. These instructions must be kept and forwarded to all possible future users of the system.

This product must only be used for the specific purpose for which it was designed.

Any other use is to be considered improper and therefore dangerous. The manufacturer cannot be held responsible for any damage caused by improper, incorrect or unreasonable use.

Avoid operating in the proximity of the hinges or moving mechanical parts.

Do not enter within the operating range of the motorized gate while it is moving.

Do not block the movement of the motorized gate since this may be dangerous.

Do not allow children to play or stay within the operating range of the motorized gate.

Keep remote controls and/or any other control devices out of the reach of children in order to avoid possible involuntary activation of the motorized gate.

In the event of fault or malfunctioning of the product, turn off the power supply switch, do not attempt to repair or intervene directly and contact only professionally competent personnel.


Failure to comply with the above may cause a dangerous situation.

All cleaning, maintenance or repair work must be carried out by professionally competent personnel.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and routine maintenance of the motorized gate must be performed by professionally competent personnel.

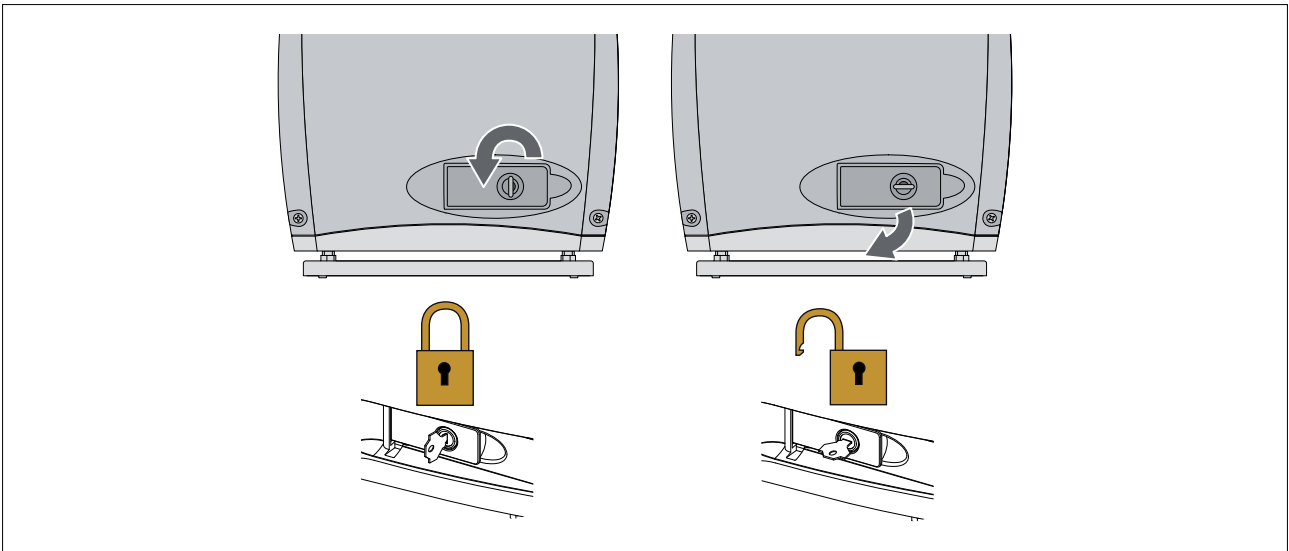
In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

All installation, maintenance and repair work must be documented and made available to the user.

 For the correct disposal of electric and electronic equipment, waste batteries and accumulators, the user must take such products to the designated municipal collection facilities.



DETACH AND DELIVER TO THE CUSTOMER



13.2 Manual release instructions

In the event of a fault or power failure, insert the key and turn it anticlockwise and completely open the door. Open the gate manually.

To block the gate again, close the door, turn the key clockwise and remove the key.

! *WARNING: carry out the door wing blocking and release with the motor switched off. When the door is closed, but the key is still horizontal, the release micro remains open and all gate operations are prevented.*



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