



Ditec FACIL

Swing gates automation

(Original instructions)

IP2132EN
Technical Manual

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Caption



This symbol indicates instructions or notes regarding safety, to which special attention must be paid.



This symbol indicates useful information for the correct functioning of the product.

1. General safety precautions



Failure to respect the information given in this manual may cause personal injury or damage to the device.

Keep these instructions for future reference

This installation manual is intended for qualified personnel only.

Installation, electrical connections and adjustments must be performed by qualified personnel, in accordance with Good Working Methods and in compliance with the current regulations. Read the instructions carefully before installing the product.

Bad installation could be dangerous.



The packaging materials (plastic, polystyrene, etc.) should not be discarded in the environment or left within reach of children, as they are a potential source of danger.

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

Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard.

Before installing the motorisation device, make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas.

Make sure the existing structure is up to standard in terms of strength and stability. The motorisation device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorised, or for any deformation 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 motorised door or gate.

The safety devices must protect against crushing, cutting, trapping and general danger areas of the motorised door or gate.

Display the signs required by law to identify hazardous areas.

Each installation must bear a visible indication of the data identifying the motorised door or gate.

When necessary, connect the motorised door or gate to an effective earthing system that complies with the current safety standards.



During installation, maintenance and repair operations, cut off the power supply before opening the cover to access the electrical parts.

The automation protection casing must be removed by qualified personnel only.

The electronic parts must be handled using earthed antistatic conductive arms. The manufacturer of the motorisation declines all responsibility if component parts not compatible with safe and correct operation are fitted.

Only use original spare parts for repairing or replacing products.



The installer must supply all information concerning the automatic, manual and emergency operation of the motorised door or gate, and must provide the user with the operating instructions.

General safety precautions for the user



These 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 motorised door or gate while it is moving.

Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

The motorised door or gate may be used by children over the age of 8 and by people with reduced physical, sensorial or mental abilities, or lack of experience or knowledge, as long as they are properly supervised or have been instructed in the safe use of the device and the relative hazards.

Children must be supervised to make sure they do not play with the device, nor play/remain in the sphere of action of the motorised door or gate.

Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

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

Any repair or technical intervention must be carried out by qualified personnel.

Cleaning and maintenance work must not be carried out by children unless they are supervised.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. 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.

Only lock and release the door wings when the motor is switched off.



Do not enter within the operating range of the wing.

To dispose of electrical and electronic equipment correctly, users must take the product to special “recycling centres” provided by the municipal authorities.

2. Declaration of incorporation of partly completed machinery

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

The manufacturer Entrematic Group AB, with headquarters in Lodjursgatan 10, SE-261 44 Landskrona, Sweden, declares that the Ditec FACIL automation for swing gates:

- is designed to be installed on a manual gate to form a machine pursuant to Directive 2006/42/EC. The manufacturer of the motorised gate must declare conformity with Directive 2006/42/EC (annex II-A) prior to initial machine start-up;
- complies with the applicable essential safety requirements indicated in Annex I, Chapter 1 of the Directive 2006/42/EC;
- complies with the Electromagnetic Compatibility Directive 2014/30/EU;
- complies with the Low Voltage Directive 2014/35/EU;
- complies with the RED Directive 2014/53/EU;
- the technical documentation complies with Annex VII-B of the Directive 2006/42/EC;
- the technical documentation is managed by the Technical Office of Entrematic Italy (with headquarters in Largo U. Boccioni 1 – 21040 Origgio (VA) – ITALY) and is available upon request, sending an e-mail to ditec@entrematic.com ;
- a copy of the technical documentation will be given to competent national authorities, following a suitably justified request.

Landskrona, 01-07-2016

Matteo Firo
Chairman

2.1 Machinery Directive

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

- prepare the technical data sheet which must contain the documents indicated in Annex V of the Machinery Directive;
(the technical data sheet must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorised door or gate);
- draw up the EC Declaration of Conformity in accordance with Annex II-A of the Machinery Directive and deliver it to the customer;
- affix the EC marking on the motorised door or gate, in accordance with point 1.7.3 of Annex I of the Machinery Directive.

3. Technical data

	FACIL3H	FACIL3EH
Power supply	24 V $\overline{\text{---}}$	230 V- 50/60 Hz
Absorption	6 A	0,6 A
Torque	200 Nm	200 Nm
Opening time	12 \pm 32 s / 90°	12 \pm 32 s / 90°
Max. opening	110°	110°
Service class	3 - FREQUENT	3 - FREQUENT
Intermittence	S2 = 30 min S3 = 50%	S2 = 30 min S3 = 50%
Temperature	-20° C / +55° C -35° C / +55° C with NIO enabled	-20° C / +55° C -35° C / +55° C with NIO enabled
Degree of protection	IP54	IP54
Control panel	LCU40H or coupled to FACIL3EH	LCU30H incorporated
Applications m = leaf width kg = leaf weight <div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: yellow; margin-right: 5px;"></div> Limit dimensions </div> <div style="display: flex; align-items: center;"> <div style="width: 15px; height: 15px; background-color: green; margin-right: 5px;"></div> Recommended dimensions </div>		

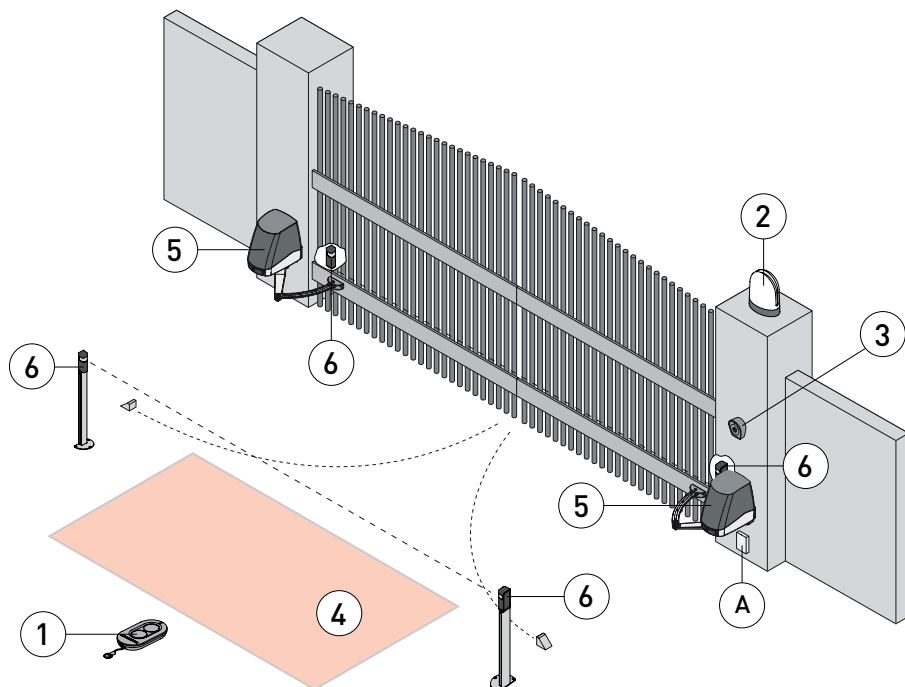
3.1 Operating instructions


Service class: 3 (minimum 30 cycles a day for 10 years or 60 cycles a day for 5 years).

Use: FREQUENT (For vehicle or pedestrian accesses to town houses or small condominiums with frequent use).

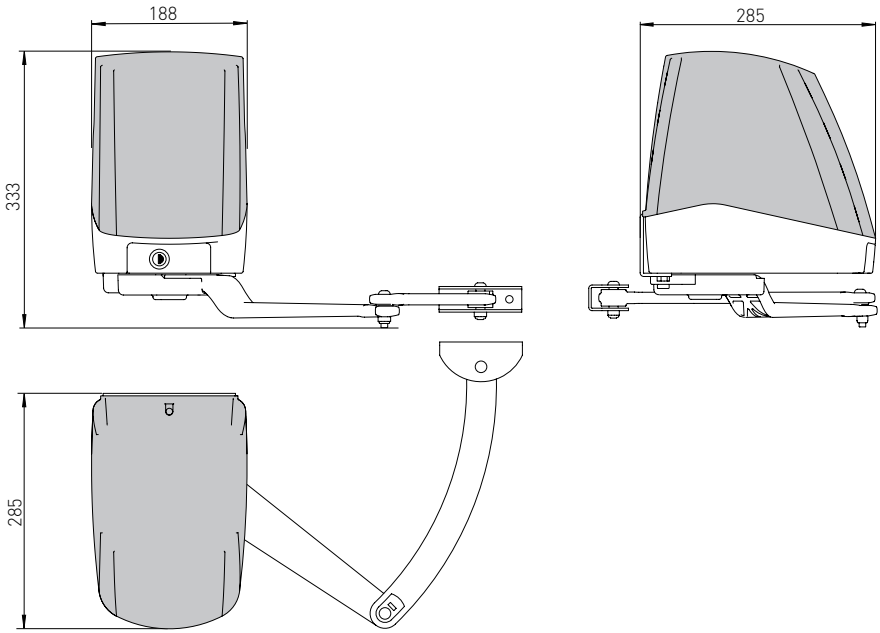
- Performance characteristics are to be understood as referring to the recommended weight (approx. 2/3 of maximum permissible weight). A reduction in performance is to be expected when the access is made to operate at the maximum permissible weight.
- Service class, running times, and the number of consecutive 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. During given time spans product performance characteristics will be such as not to require any special maintenance.
- The actual performance characteristics of each automatic access may be affected by independent variables such as friction, balancing and environmental factors, all of which may substantially alter the performance characteristics of the automatic access or curtail its working life or parts thereof (including the automatic devices themselves). When setting up, specific local conditions must be duly borne in mind and the installation adapted accordingly for ensuring maximum durability and trouble-free operation.

4. Standard installation



Ref.	Code	Description
1	ZEN2 / ZEN4 ZEN2C / ZEN4C	Transmitter
2	FL24	Flashing light
3	XEL5 GOL4M	Key selector Codified via radio control keyboard
4	LAB9	Magnetic loop detection device for traffic monitoring
5	FACIL3H FACIL3EH	Gearmotor Gearmotor and control panel incorporated
6	LIN2 XEL2 LAB4	Photocells Photocells IP55
A		Connector block (not supplied). 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.

5. Dimensions



6. Installation

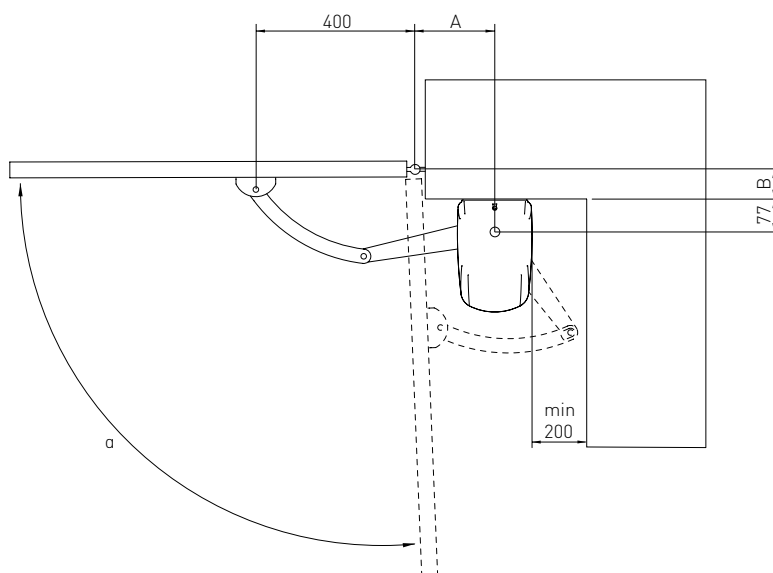
The given operating and performance features can only be guaranteed with the use of DITEC Entrematic accessories and safety devices.

Unless otherwise specified, all measurements are expressed in mm.

6.1 Preliminary checks

Check that the structure is sufficiently rugged and that the hinge pivots are properly lubricated. Provide an opening and closing stop.

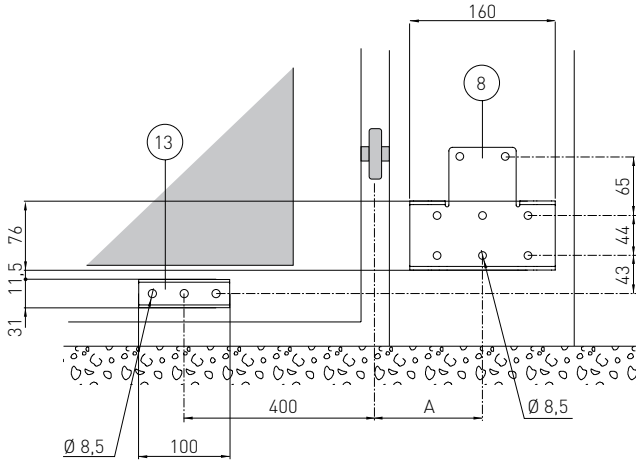
Check the installation measurements



a		A (mm)								
		120	130	140	150	160	170	180	190	200
B (mm)	0	90°	90°	95°	95°	100°	100°	105°	105°	110°
	50	90°	90°	95°	95°	95°	95°	95°	95°	95°
	100	90°	90°	90°	90°	90°	90°	90°	90°	/
	150	90°	90°	90°	90°	90°	90°	90°	/	/
	200	90°	90°	90°	90°	90°	/	/	/	/

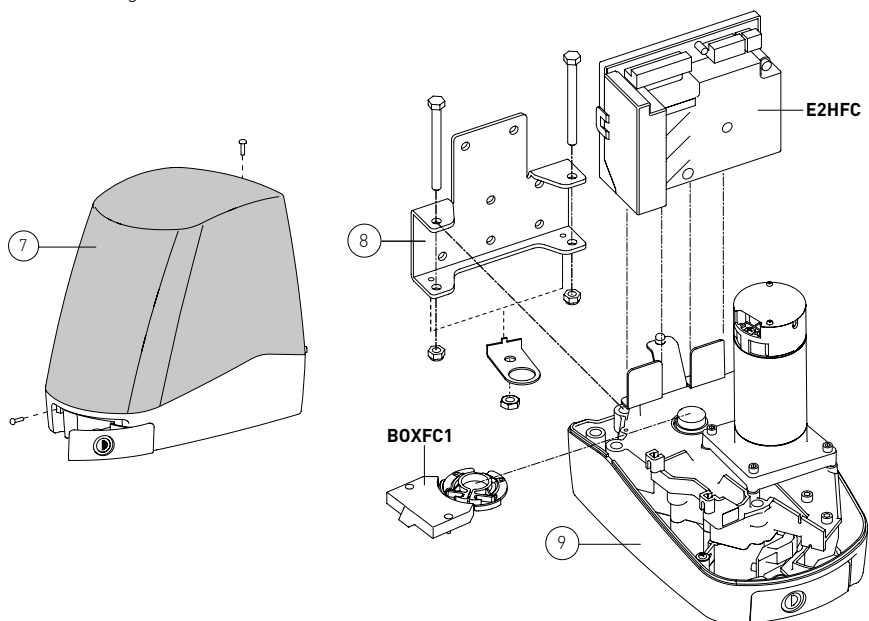
6.2 Bracket fastening

- Securely fix the fastening plate [8] to the gate pillar and the arm retention bracket [13] to the leaf as indicated in figure.

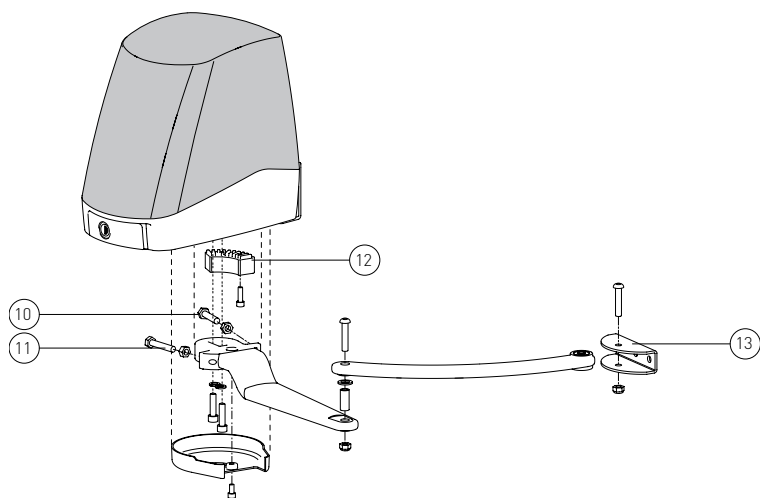


6.3 Gearmotor installation

- Remove the lid [7] and fit the gearmotor [9] to the fastening plate [8] as indicated in figure.
- Release the gearmotor (see use instructions).



- Fix the articulated arms and the arm retention bracket [13] as indicated in figure.
- The arm articulations must be lubricated and the screws sufficiently tightened so that they do not impede the movement of the arms.
- If necessary adjust screws [10] and [11] on the stop [12] positioning the leaf in the closed and open position.



6.4 Limit switch installation and adjustment (optional)

- Connect the limit switch wire fastons to the microswitches. Arrange the limit switch wires neatly inside the microswitch box [1] and route the wire out through the appropriate opening.
- Fit the two cams [3] on to the cam ring without tightening the screws.
- Install the cam ring on the driving shaft and screw down screw [4] without tightening.
- Secure the microswitch box [1] to the geared motor.
- [Fig. 2-3] With gate closed, manually rotate the cam ring [2] so as to have the closing microswitch pressed down and the opening microswitch released. Firmly secure the cam ring in this position by means of screw [4].

WARNING: check that between the geared motor and the limit switch cams there is a gap of at least 1 mm.

- [Fig. 2-3] With gate open, check that the opening microswitch is pressed down.

NOTE: if the opening microswitch is not pressed down, move the cam on to hole [A].

- Upon setting being completed, tighten the cam screws.
- Connect limit switches as shown in fig. 2 (for motors opening clockwise) or in fig. 3 (for motors opening anticlockwise).

NOTE: follow VIVAH control panel instructions manual to connect.

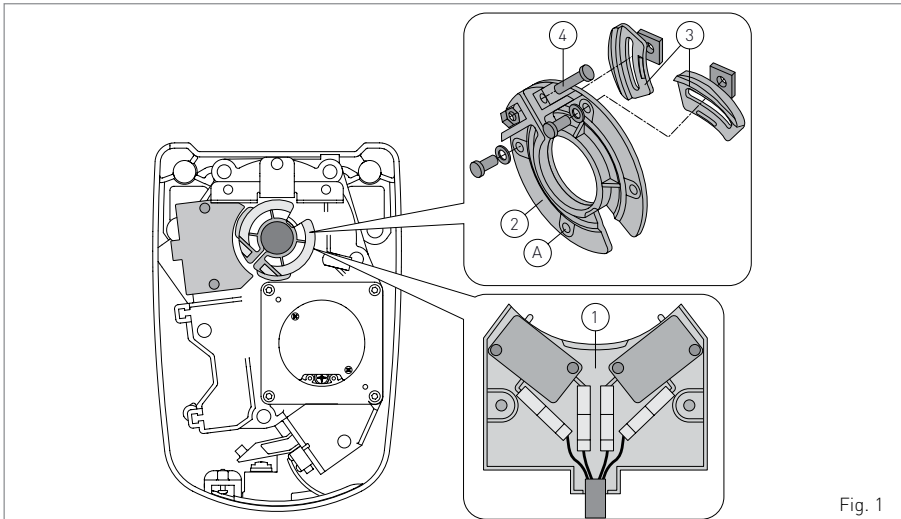


Fig. 1

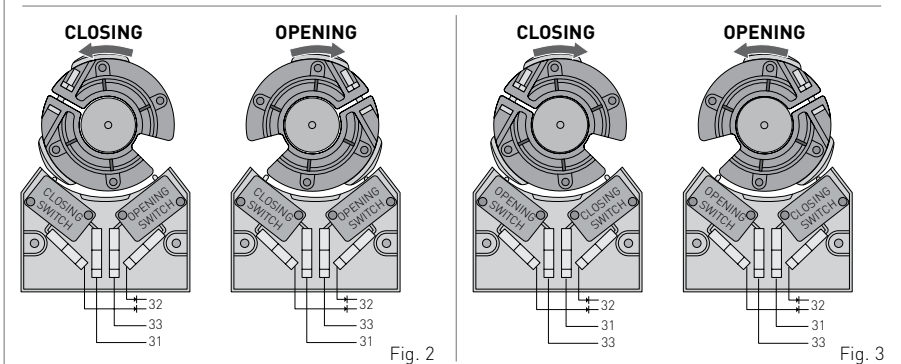


Fig. 2

Fig. 3

7. Electrical connections




NB: the electrical connections and start-up of the FACIL gearmotors are shown in the LCU30H and LCU40H control panels installation manuals.



Before connecting the power supply, make sure the plate data correspond to that of the mains power supply.

An omnipolar disconnection switch with a contact opening distance of at least 3mm must be fitted on the mains supply.

Check there is an adequate residual current circuit breaker and overcurrent cutout upstream of the electrical system.

Use a H05RN-F 3G1.5 type electric cable and connect it to the terminals L (brown), N (blue),  (yellow/green) in the automation.

Secure the cable using a special cable clamp and remove the sheath only where the clamp is. Connection to the mains power supply (in the section outside the automation) is made on an independent channel separated from that containing the connections to the control and safety devices.

The channel must penetrate the automation by at least 50mm via the holes on the base plate.

Make sure there are no sharp edges that may damage the power supply cable.

Make sure the mains power wires (230V) and the accessory wires (24V) are separated.

The cables must be double insulated. Remove their sheaths near the relative connecting terminals, and secure them with cable fasteners (not supplied).

8. Routine maintenance plan

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

Without 230 V~ power supply and batteries if present:

- Clean and lubricate the gate's rotation pins and hinges with neutral grease.
- Check the resistance of the fixing points.
- Check the value of the capacity of the motor capacitor.

Reconnect the 230 V~ power supply and batteries if present:

- Check the power adjustment.
- Check that all commands and safety functions are operating correctly (photocells).
- Check that the release system is working correctly.
- Check that the batteries are working correctly (in continuity) if the VIVAH or E2HFC control panel with battery kit is present, by switching off the power supply and performing several manoeuvres. Once performed, turn on the 230 V~ power supply again.



NB: For spare parts, see the spares price list.




Only use original spare parts for repairing or replacing products.

The installer must supply all information concerning the automatic, manual and emergency operation of the motorised door or gate, and must provide the user with the operating instructions.

The installer must prepare and keep a maintenance record showing all the routine and extraordinary maintenance work carried out.

Operating instructions

General safety precautions for the user

 These 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.

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Do not obstruct the motion of the motorised door or gate, as this may cause a dangerous situation.

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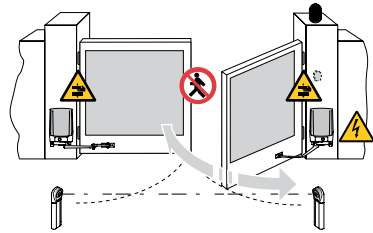
Do not allow children to play or stay within the operating range of the motorised door or gate.

Keep remote controls and/or any other command devices out of the reach of children, to avoid any accidental activation of the motorised door or gate.

In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly, and contact only qualified personnel.

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

Any repair or technical intervention must be carried out by qualified personnel.



Cleaning and maintenance work must not be carried out by children unless they are supervised.

To ensure that the system works efficiently and correctly, the manufacturer's indications must be complied with and only qualified personnel must perform routine maintenance on the motorised door or gate. In particular, regular checks are recommended in order to verify that the safety devices are operating correctly.

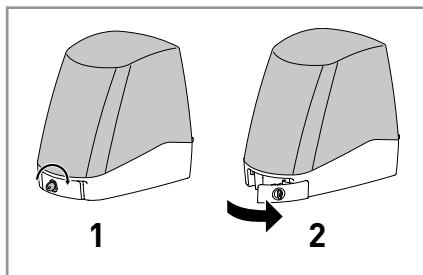
All installation, maintenance and repair work must be documented and made available to the user.

Only lock and release the door wings when the motor is switched off. Do not enter within the operating range of the wing.



To dispose of electrical and electronic equipment correctly, users must take the product to special "recycling centres" provided by the municipal authorities.

Manual release instructions



In the event of a fault or a power failure, introduce the key, turn it clockwise and fully open the hatch. Manually open the gate.

To lock the gate again, close the hatch, turn the key anticlockwise and remove the key

NOTE: to turn off the automation the power supply and batteries (if present) must be disconnected.

WARNING: when the hatch is closed but the key is still horizontal, the release microswitch is open and all manoeuvres are prevented.



WARNING: the door wing block and release operations must be performed with the motor idle.



For any problems and/or information, contact the Technical Service.

Installer's stamp	Operator
	Date of intervention
	Technician's signature
	Customer's signature

Intervention performed _____

Installer's stamp	Operator
	Date of intervention
	Technician's signature
	Customer's signature

Intervention performed _____



For any problems and/or information, contact the Technical Service.

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