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Technical Manual

Ditec FACIL

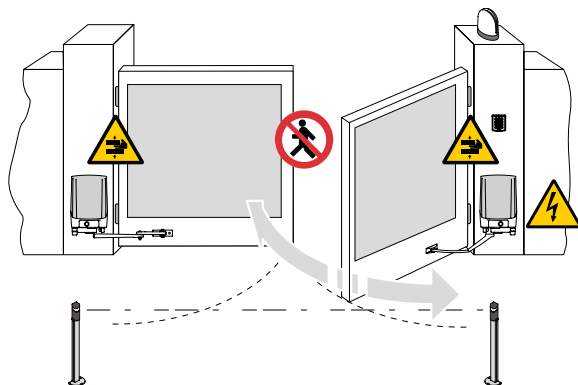
Swing gates automation

(translation of the original instructions)

GENERAL SAFETY PRECAUTION

 **WARNING!** Important safety instructions. Please follow these instructions carefully. Failure to observe the information given in this manual may lead to severe personal injury or damage to the equipment. Keep these instructions for future reference.

 **WARNING!** Disconnect power supply before any cleaning or maintenance operation. This manual and those for any accessories can be downloaded from: www.ditecautomations.com



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 be used only 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 door or gate while it is moving. Do not obstruct the motion of the motorized door or gate, as this may cause a dangerous situation • Lock and release the door or gate wings only when the motor is switched off. Do not enter within the action range of the door or gate wing(s) • In case of operation in "hold-to-run" ("dead man") mode, the corresponding command devices must be located so to have direct and complete view of the door or gate during the maneuvers, away from any moving parts, at a minimum height of 1.5 m, and out of reach of the public • The motorized 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 or remain in the area of action of the motorized 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 motorized door or gate • Cleaning and maintenance work intended to be done by the end user must not be carried out by children unless they are supervised. In the event of a product fault or malfunction, turn off the power supply switch. Do not attempt to repair or intervene directly. Any repair or technical intervention must be carried out by qualified personnel. Failure to comply with the above may cause a dangerous situation.

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 motorized 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 • To correctly dispose of electrical and electronic equipment, of batteries, and of accumulators, users must take the product to special "recycling centers" provided by the municipal authorities.

SAFETY PRECAUTIONS FOR TECHNICAL PERSONNEL



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. Wrong installation could be dangerous • Before installing the product, make sure it is in perfect condition • 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 • Do not install the product in explosive areas and atmospheres: the presence of inflammable gas or fumes represents a serious safety hazard • Make sure that the temperature range indicated in the technical specifications is compatible with the installation site • Before installing the motorization device, make sure that the existing structure, as well as all the support and guide elements, are up to standards in terms of strength and stability. Verify the stability and smooth mobility of the guided part, and make sure that no risks of fall or derailment subsist. Make all the necessary structural modifications to create safety clearance and to guard or isolate all the crushing, shearing, trapping and general hazardous areas • The motorization device manufacturer is not responsible for failure to observe Good Working Methods when building the frames to be motorized, or for any deformation during use • The safety devices (photocells, safety edges, emergency stops, etc.) must be installed taking into account the applicable laws and directives, Good Working Methods, installation premises, system operating logic and the forces developed by the motorized door or gate • The safety devices must protect against crushing, cutting, trapping and general danger areas of the motorized 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 motorized door or gate • Before connecting the power supply, make sure the plate data correspond to those 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 that there is an adequate residual current circuit breaker and a suitable overcurrent cutout upstream of the electrical installation in accordance with Good Working Methods and with the laws in force • When



requested, connect the motorized door or gate to an effective earthing system that complies with the current safety standards • Before commissioning the installation to the end user, make sure that the automation is adequately adjusted in order to satisfy all the functional and safety requirements, and that all the command, safety, and manual release devices operate correctly • During installation, maintenance and repair operations, cut off the power supply before opening the



cover to access the electrical parts • The protection cover of the operator must be removed by qualified personnel only • The electronic parts must be handled using earthed antistatic conductive arms. The manufacturer of the motorization 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 motorized door or gate, and must provide the user with the operation and safety instructions.

Declaration of incorporation of partly completed machinery

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

We,

ASSA ABLOY Entrance Systems AB - Lodjursgatan 10 - SE-261 44 Landskrona - Sweden,

declare, under our sole responsibility, that the type of equipment with the name:

Ditec FACIL Automation for swing gates

complies with the following directives and their amendments:

2006/42/EC Machinery Directive (MD), regarding the following essential health and safety requirements: 1.1.2, 1.1.3, 1.2.1, 1.2.2, 1.2.3, 1.2.4.2, 1.2.6, 1.3.9, 1.4.3, 1.7.2, 1.7.3, 1.7.4, 1.7.4.1, 1.7.4.2.

2014/30/EU Electromagnetic Compatibility Directive (EMCD)

2014/35/EU Radio Equipment Directive (RED)

2011/65/EU Restriction of Hazardous Substances (RoHS 2)

2015/863/EU Restriction of Hazardous Substances (RoHS Amendment 2)

Harmonised European standards which have been applied:

EN 61000-6-3:2007 + A1:2011 + AC:2012

EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021

Other standards or technical specifications which have been applied:

IEC 60335-1:2010 + C1:2010 + C2:2011 + A2:2013 + C1:2014 + A2:2016 + C1:2016

EN 12453:2017

The manufacturing process guarantees that the equipment complies with the technical documentation.

UK Declaration of Conformity

We:

ASSA ABLOY Entrance Systems AB - Lodjursgatan 10 - SE-261 44 Landskrona - Sweden

Declare under our sole responsibility that the types of equipment with names:

Ditec FACIL Automation for swing gates

complies with the following directives and their amendments:

Supply of Machinery (Safety) Regulations 2016

Electromagnetic Compatibility Regulations 2016

Radio Equipment Regulations 2017

The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012 (RoHS)

Harmonized European standards that have been applied:

EN 61000-6-3:2007 + A1:2011 + AC:2012

EN 60335-1:2012 + AC:2014 + A11:2014 + A13:2017 + A1:2019 + A14:2019 + A2:2019 + A15:2021

Other standards or technical specifications that have been applied:

IEC 60335-1:2010 + C1:2010 + C2:2011 + A2:2013 + C1:2014 + A2:2016 + C1:2016

EN 12453:2017

The manufacturing process ensures the compliance of the equipment with the technical file.

Responsible for the technical documentation:

Matteo Fino - Ditec S.p.A. - Largo U. Boccioni, 1 - 21040 Origgio (VA) - Italy

Signed on behalf of ASSA ABLOY Entrance Systems AB by:

Place

Date

Signature

Position

Origgio

2025/12/15

Matteo Fino

CEO Ditec



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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.

Machinery Directive

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

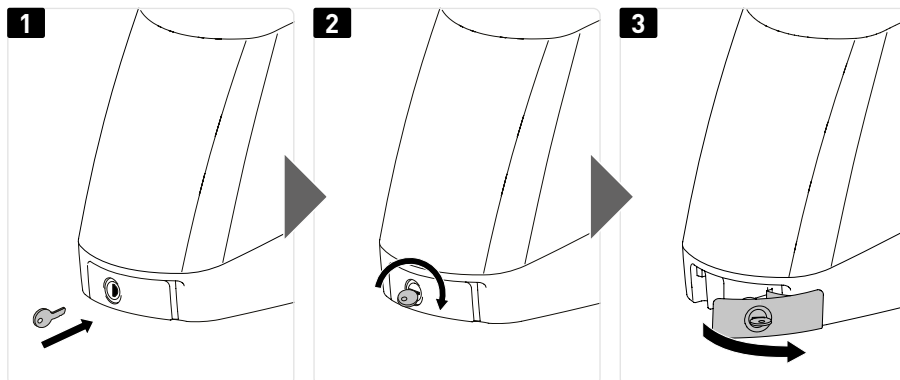
- prepare the technical file which must contain the documents indicated in Annex V of the Machinery Directive;
- (The technical file must be kept and placed at the disposal of competent national authorities for at least ten years from the date of manufacture of the motorized door);
- draw up the EC Declaration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

MANUAL RELEASE PROCEDURE

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.



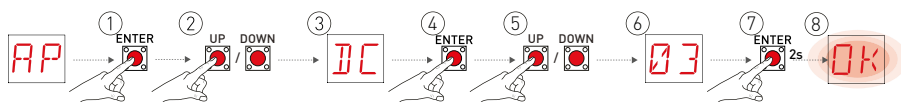
When the hatch is closed but the key is still horizontal, the release microswitch is open and all manoeuvres are prevented. The door wing block and release operations must be performed with the motor idle.



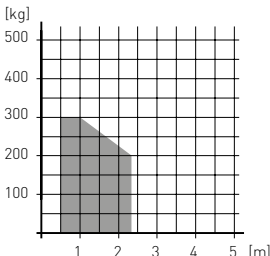
To turn off the automation the power supply and batteries (if present) must be disconnected. For any problems and/or information, contact the Technical Service.

To make the automation system manual release operation easier, in case of fault or power shortage, and therefore reduce mechanical stress, it is advisable to enable the disengagement Duration on the closing stop - parameter **DC** other than **00**.

- EXAMPLE:



1. Technical data

	FACIL3H	FACIL3TH
Power supply	24 V $\overline{\text{=}}$	230 V~ 50/60 Hz
Absorption	6 A	0,6 A
Torque	200 Nm	
Opening time	12÷32 s / 90°	
Maximum weight	300 kg	
Leaf width (max)	2,3 m	
Max. opening	110°	
Service class	3 - FREQUENT (tested up to 150.000 cycles)	
Intermittence	S2= 30 min (T= 25°C) S3= 50% (T= 25°C)	
Cycles / hour *	45 (T= 25°C)	
Continuous cycles **	41 (T= 25°C)	
Operating temperature (T)	    with NIO enabled	
Degree of protection	IP54	
Control panel	Installation with internal control panel: - FACIL3TH with LCU30HFC Installation with external control panel: - LCU30H-HJ or LCU40H-HJ	Installation with internal control panel: - LCU30HFC
Applications m = leaf width kg = leaf weight		



* Indicative cycles consider a time per opening/closing maneuver of 20 sec and pause time of 20 sec.
Full cycle time of 80 sec.



** Indicative cycles consider a time per opening/closing maneuver of 20 sec and pause time of 2 sec.
Full cycle time of 44 sec.

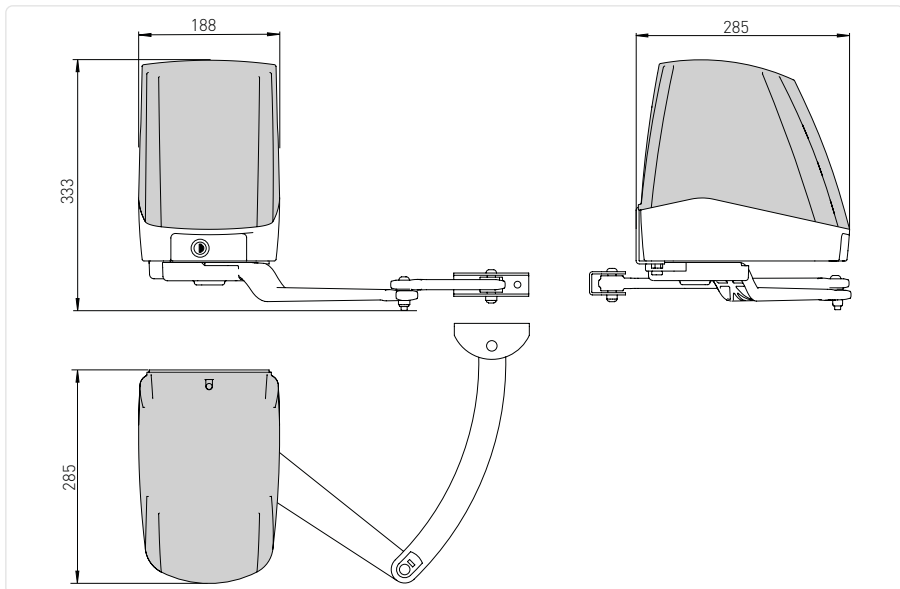
1.1 Operating instructions

Use: FREQUENT

for vehicle or pedestrian for single-family or multi-family 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.

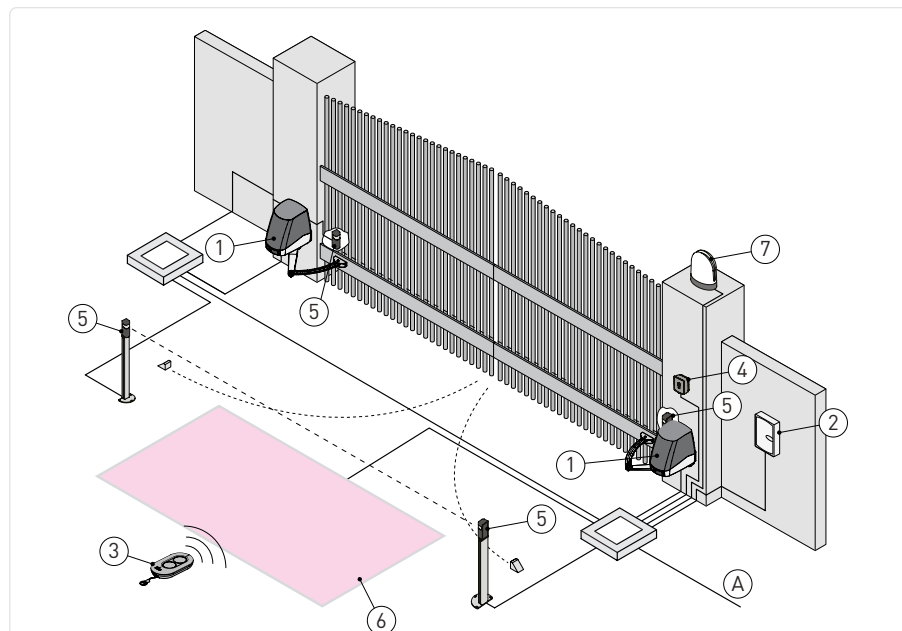
2. Dimensions



3. Installation

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

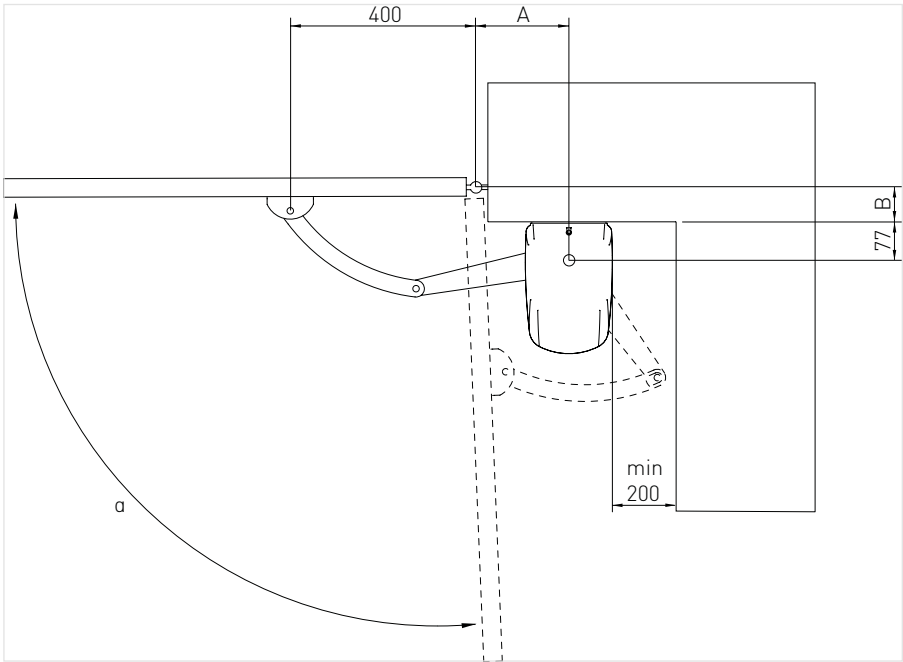
3.1 Standard installation



Ref.	Code	Description	Cable
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.	
1	FACIL3H	Gearmotor	2 x 1,5 mm ²
	FACIL3TH + LCU30HFC	Gearmotor and control panel incorporated	3G x 1.5 mm ²
2	LCU30H-HJ / LCU40H-HJ	Installation with external control panel	3G x 1.5 mm ²
3	ZEN	Transmitter	/
	AXK4	Digital combination wireless keypad	/
4	AXK5M	Wall-mounted key selector switch with European cylinder	4 x 0.5 mm ²
	AXK5N	Semi-recessed key selector switch with European cylinder	
	AXK5NM	Wall-mounted key selector switch without cylinder	
	AXK5NI	Semi-recessed key selector switch without cylinder	
	AXR7	RFID reader unit	5 x 0.5 mm ²
5	LIN2 LIN2B AXP2 LAB4	Photocells	4 x 0.5 mm ²
6	LAB9	Magnetic loop	2 x 1,5 mm ²
7	FLM	Flash clignotant	2 x 1 mm ²
	FL24	Antenna (integrated in the flashing light)	coax cable RG-58 (50 Ω)

3.2 Preliminary checks

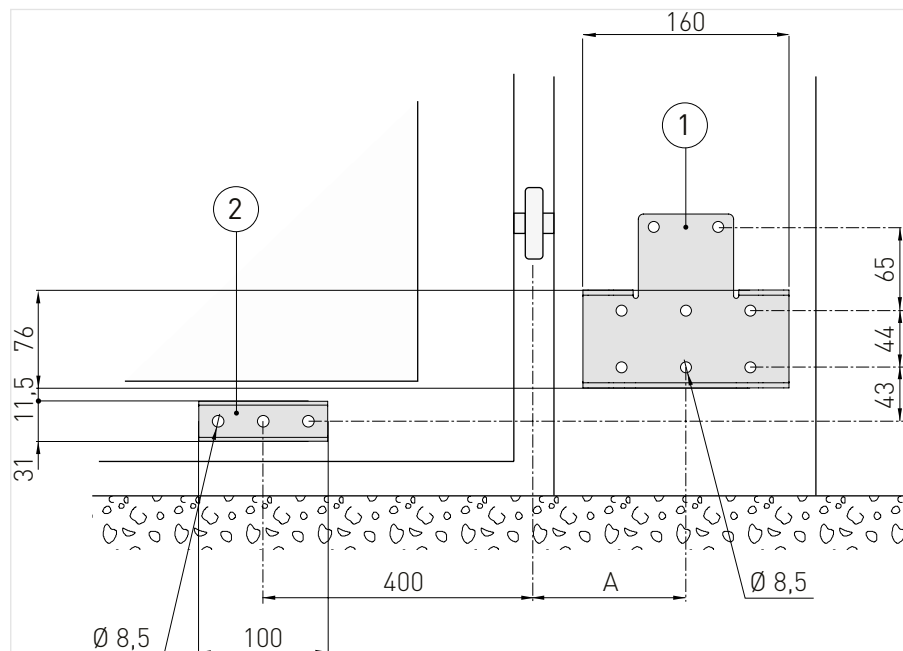
Check that the structure is sufficiently rugged and that the hinge pivots are properly lubricated.
Provide an opening and closing stop.
Check the installation measurements



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°	/	/	/	/

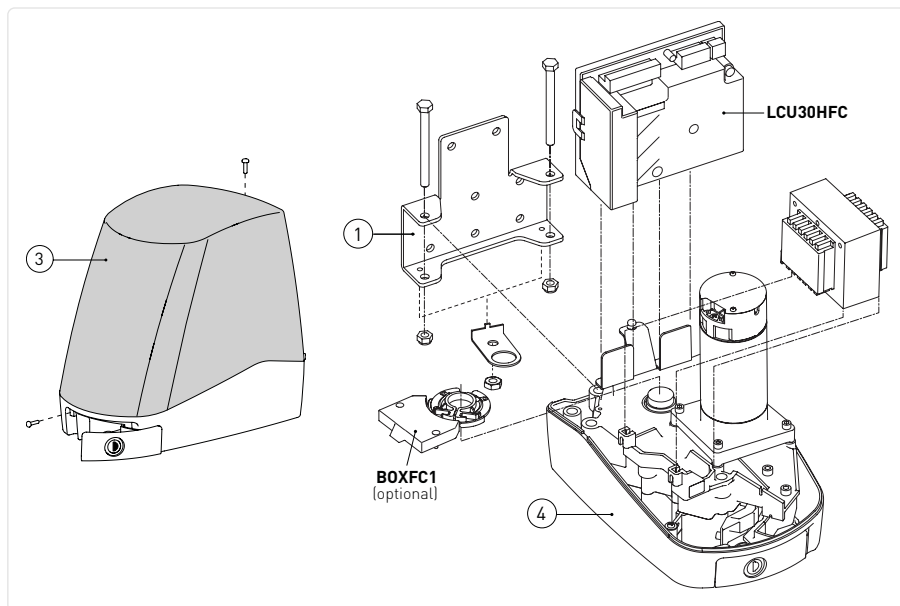
3.3 Bracket fastening

- Securely fix the fastening plate [1] to the gate pillar and the arm retention bracket [2] to the leaf as indicated in figure.

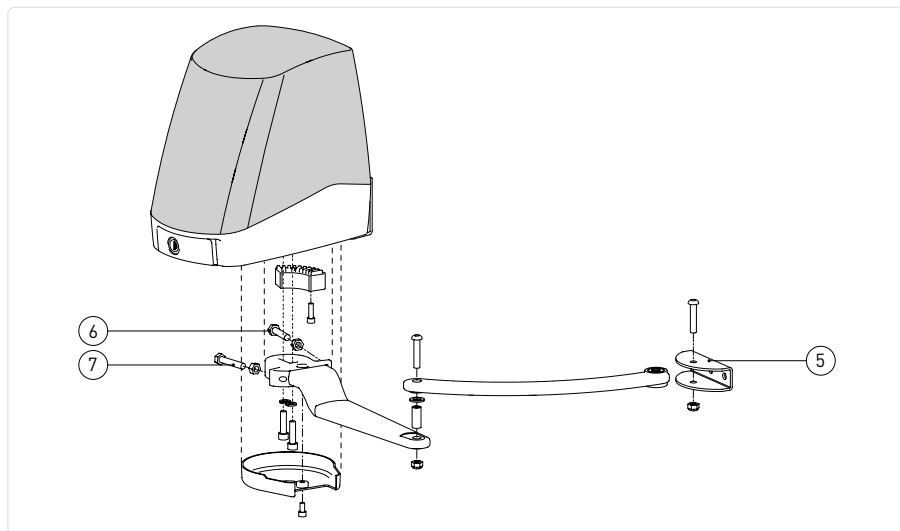


3.4 Gearmotor installation

- Remove the lid [3] and fit the gearmotor [4] to the fastening plate [1] as indicated in figure.
- Release the gearmotor (see use instructions).



- Fix the articulated arms and the arm retention bracket [5] 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.
- Adjust the open and closed position by means of limit screws [6] and [7].



3.5 Limit switch optional installation and adjustment (BOXFC1)



BOXFC1

- 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].



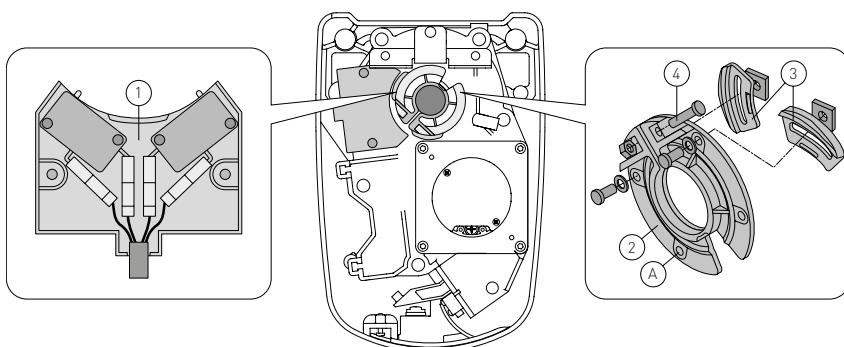
Check that between the geared motor and the limit switch cams there is a gap of at least 1 mm.

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

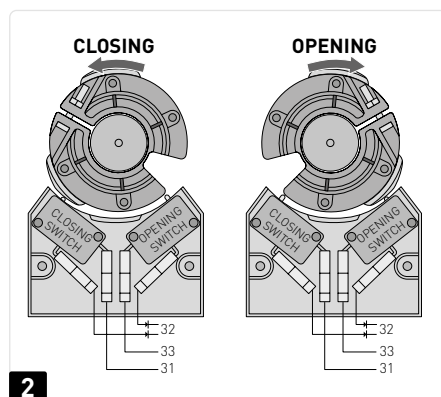


If the opening microswitch is not pressed down, move the cam on to hole [A].

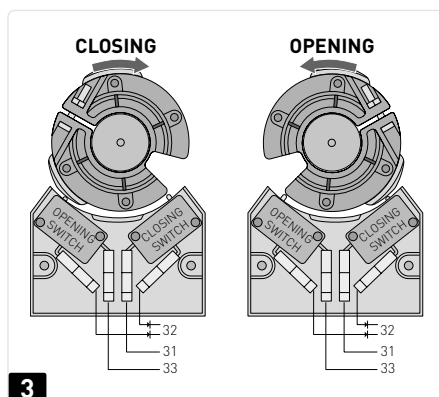
- Upon setting being completed, tighten the cam screws.
- Connect limit switches as shown in fig. 2 (for motors opening clockwise) or in fig. 3 (for motors opening anticlockwise).



1



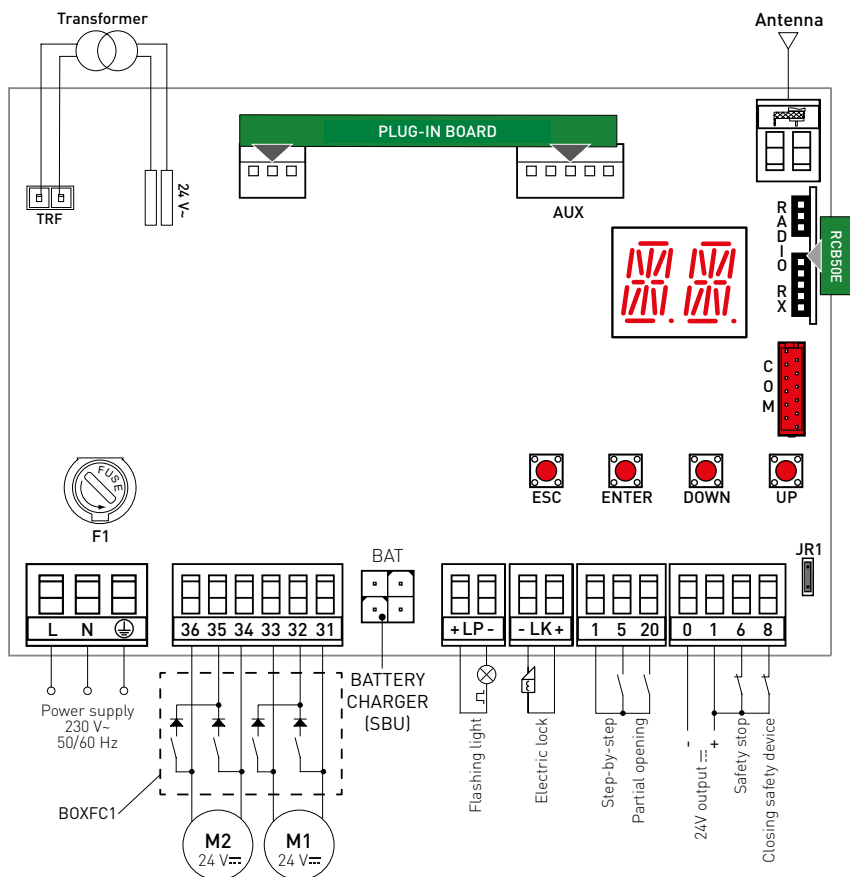
2



3

4. Electrical connections

Electronic panel LCU30HFC



The electrical wiring and the start-up of the gearmotors are shown in the control panel installation manuals.

- Before connecting the power supply, make sure that the data on the plate correspond to the electricity distribution network data.
- Provide an omnipolar switch/disconnector on the power network with a contact opening distance of 3 mm or more.
- Check that there is a suitable residual-current device and surge protector upstream of the electrical system.
- Use an H05RN-F 3G1.5 electrical cable and connect it to terminals L (brown) and N (blue) inside the automation system. Connect the earth cable (yellow/green) to the earth terminal.



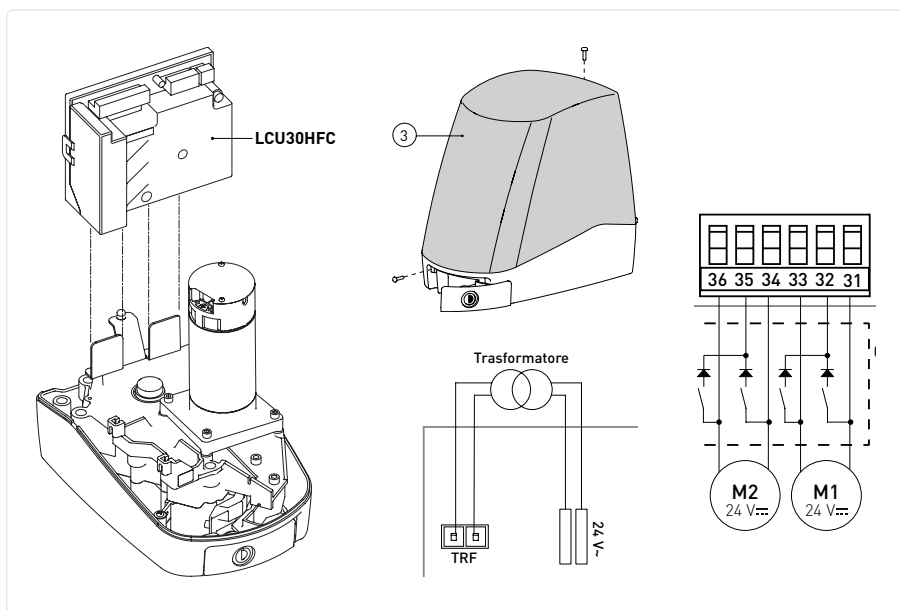
Always observe L-N polarity when connecting to the mains.

- Secure the cable by means of the cable clamp and only unsheathe it at the terminal.
- Connections to the electrical distribution network and any other low-voltage conductors (230 V), in the section outside the automation system, must be made with corrugated pipes that are independent and separate from the path of connections to the control and safety devices (SELV = Safety Extra Low Voltage).
- Make sure there are no sharp edges that could damage the power cord. To reverse the rotation direction reverse the polarity of the motor phases.



Ensure that the mains connection cables, any other low-voltage cables (230 V), and safety extra-low voltage safety accessory connection cables in the portion located inside the product are kept well separated from the gear motor body.

4.1 LCU30HFC control panel installation



- Position the control panel in its designated location.
- Connect the TRF connector and the faston connectors to the appropriate terminals. Connect the motor terminal to contacts 31–33. The second motor (slave) must also be connected to the other terminal.
- Insert the plastic cover of the control panel.
- Insert cover [3] and tighten the automation.

5. 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 electrical wiring is in good condition.

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), by switching off the power supply and performing several manoeuvres.

Once performed, turn on the 230 V~ power supply again.



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.

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