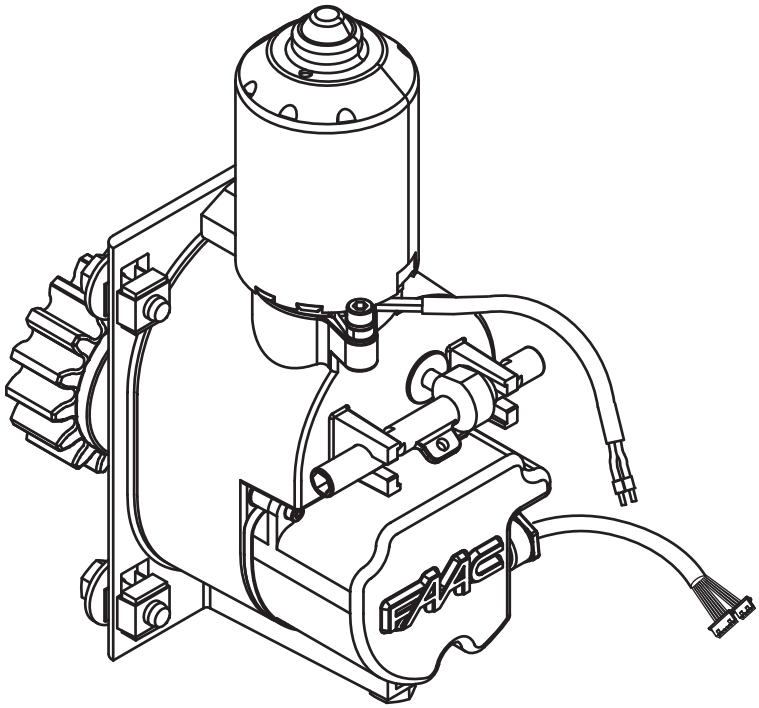
C4000I



Translation of the original instructions

FAAC S.p.A. Soc. Unipersonale
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EU DECLARATION OF CONFORMITY

The Manufacturer

Company name: FAAC S.p.A. Soc. Unipersonale

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares on his sole responsibility that the following products:

Description: Gearmotor for sliding gates

Model: C4000I

complies with the following applicable EU legislations:

2014/30/EU
2011/65/EU

Furthermore, the following harmonised standards have been applied:

EN 61000-6-2:2005
EN 61000-6-3:2007 + A1:2011

Bologna, Italy, 01-01-2019

CEO
A. Marcellan

DECLARATION OF INCORPORATION FOR PARTLY COMPLETED MACHINERY

(2006/42/EC ANNEX II P.1, B)

Manufacturer and person authorised to prepare the relevant technical documentation

Company name: FAAC S.p.A. Soc. Unipersonale

Address: Via Calari, 10 - 40069 Zola Predosa BOLOGNA - ITALY

hereby declares that for the partly completed machinery:

Description: Gearmotor for sliding gates

Model: C4000I

The essential requirements of the Machinery Directive 2006/42/EC (including all applicable amendments) that have been applied and fulfilled are as follows:

1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.5, 1.2.6, 1.3.8.1, 1.3.9, 1.4.1, 1.5.1, 1.5.5, 1.5.6, 1.5.8, 1.5.9, 1.5.10, 1.5.11, 1.5.13,1.6.1, 1.6.4, 1.7.2, 1.7.4.2, 1.7.4.3

and that the relevant technical documentation has been compiled in compliance with part B of Annex VII.
Furthermore, the following harmonised standards have been applied:

EN60335-2-103-2015
EN12100:2010
EN13849-1:2015 CAT 2 PL "c"
EN13849-2:2012

And also undertakes to transmit, in response to a reasoned request by the national authorities, relevant information on the partly completed machinery by mail or e-mail.
Finally, the manufacturer declares that the above-mentioned partly completed machinery must not be put into service until the final machine in which it is to be incorporated has been declared compliant with the requirements of the above-mentioned Machinery Directive 2006/42/EC.

Bologna, Italy, 01-01-2019

CEO
A. Marcellan

ENGLISH

Translation of the original instructions

CONTENTS

TABLES

ENGLISH

Translation of the original instructions

1. INTRODUCTION TO THIS INSTRUCTIONS MANUAL

This manual provides the correct procedures and requirements for installing C4000I and maintaining it in a safe condition.
When drafting the manual, the results of the risk assessment conducted by FAAC S.p.A. on the entire product life cycle have been taken into account in order to implement effective risk reduction measures.
The following stages of the life cycle of the product have been considered:

- Delivery/handling
- Assembly and installation
- Set-up and commissioning
- Operation
- Maintenance/troubleshooting
- Disposal at the end of the product's life cycle

Risks arising from installation and using the product have been taken into consideration; these include:

- Risks for the installation/maintenance technician (technical personnel)
- Risks for the user of the automation system
- Risks to product integrity (damage)

In Europe, the automation of a gate falls under the Machinery Directive 2006/42/EC and the corresponding harmonised standards. Anyone automating a gate (new or existing) is classified as the Manufacturer of the Machine. They are therefore required by law, among other things, to carry out a risk analysis of the machine (automatic gate in its entirety) and take protective measures to fulfil the essential safety requirements specified in Annex I of the Machinery Directive.
FAAC S.p.A. recommends that you always comply with the EN 12453 standard and in particular that you adopt the safety criteria and devices indicated, without exception, including the dead-man function.
This manual also contains general information and guidelines, which are purely illustrative and not exhaustive, in order to facilitate the activities carried out by the Manufacturer of the Machine in all respects with regard to carrying out the risk analysis and drafting the instructions for use and maintenance of the machine. It should be clearly understood that FAAC S.p.A. accepts no liability for the reliability and/ or completeness of the above instructions. As such, the manufacturer of the machine must carry out all the activities required by the Machinery Directive and the corresponding harmonised standards on the basis of the actual condition of the locations and structures where the product C4000I will be installed, prior to commissioning the machine. These activities include the analysis of all the risks associated with the machine and subsequent implementation of all safety measures intended to fulfil the essential safety requirements.
This manual contains references to European standards. The automation of a gate must fully comply with any laws, standards and regulations applicable in the country where installation will take place.

Unless otherwise specified, the measurements provided in the instructions are in mm.

1.1 MEANING OF THE SYMBOLS USED

1 Symbols: notes and warnings used in the instructions

	CAUTION It indicates the risk of personal injury or damage to parts. The operation or step described must be performed following the instructions provided and any applicable safety regulations.
	ELECTRIC SHOCK HAZARD WARNING Indicates risk of electrocution. The operation or step described must be performed following the instructions provided and any applicable safety regulations.
	WARNING Details and specifications to be followed with the utmost attention, in order to ensure correct operation of the system.
	PAGE E.g.: **6** see Page 6.
	FIGURE E.g.: **1**-3 see Figure 1 - item 3.
	TABLE E.g.: **1** see Table 1.
	APPENDIX E.g.: **1** see Appendix 1.
§	CHAPTER/SECTION E.g.: §1.1 see section 1.1.
	RECYCLING and DISPOSAL Structural materials, batteries and any electronic components must not be disposed of with household waste. They must be taken to authorised recycling and disposal centres.
	Crushing hazard, injury to musculoskeletal system Indicates a risk of personal injury when manually lifting heavy items. For manual lifting, there should be 1 person for every 20 kg to be lifted.
	Automatic operation - automation locked
	Manual operation - automation unlocked

○	LED off
●	LED on
✱	Flashing
✳	Fast flashing

2 Symbols: safety signs and symbols (EN ISO 7010)

	GENERIC HAZARD Personal injury hazard or risk of damage to components.
	ELECTROCUTION HAZARD Risk of electric shock from live parts.
	CRUSHING HAZARD, DANGER TO THE MUSCULOSKELETAL SYSTEM Risk of personal injury when manually lifting heavy objects.
 	CRUSHING HAZARD Risk of crushing to the hands/feet due to the presence of heavy parts.
	HAND CRUSHING HAZARD Risk of crushing hands due to moving parts.
	CUTTING/AMPUTATION HAZARD Cutting hazard due to the presence of sharp components or the use of pointed/sharp tools (drill).
	SHEARING HAZARD Risk of shearing from moving parts.
	IMPACT HAZARD Risk of impact or crushing due to moving parts.
	FORKLIFT TRUCK IMPACT HAZARD Risk of collision/impact with forklift trucks.

3 Symbols: Personal Protective Equipment

Personal protective equipment must be worn to protect against hazards (e.g. crushing, cutting, shearing etc.):

	Obligatory use of protective helmet.
	Obligation to wear safety footwear.
	Obligation to wear mask/goggles to protect the eyes from the risk of fragments due to the use of drill or welder.
	Obligation to wear work gloves.
	Obligation to wear ear protectors.
	Obligatory use of work clothes without parts that could become caught in moving parts.

2. SAFETY RECOMMENDATIONS

This product is placed onto the market as "partly completed machinery", therefore it cannot be commissioned until the machine in which it will be incorporated has been identified and declared to conform to the Machinery Directive 2006/42/EC by the actual Manufacturer.

Incorrect installation and/or incorrect use of the product might cause serious harm to people. Read and comply with all the instructions before starting any activity on the product. Keep these instructions for future reference.
Perform installation and other activities adhering to the sequences provided in the instructions manual.
Always comply with all the requirements contained in the instructions and warning tables at the beginning of the paragraphs. Always comply with the safety recommendations.
Only the installer and/or maintenance technician is authorised to work on the automation components. Do not modify the original components in any way.
Close off the work site (even temporarily) and prevent access/transit. EC countries must comply with the legislation that transposes the European Construction Site Directive 92/57/EC.

The installer is responsible for the installation/testing of the automation and for completing the Register of the system.
The installer must prove or declare to possess technical and professional proficiency to perform installation, testing and maintenance activities according to the requirements in these instructions.

2.1 INSTALLER SAFETY

Installation activities require special work conditions to reduce to the minimum the risks of accidents and serious damage. Furthermore, the suitable precautions must be taken to prevent risks of injury to persons or damage.

The installer must be in good physical and mental condition, aware of and responsible for the hazards that may be generated when using the product.
The work area must be kept tidy and must not be left unattended.
Do not wear clothes or accessories (scarves, bracelets, etc.) that may get caught in moving parts.
Always wear the personal protective equipment recommended for the type of activity to be carried out.
The required level of workplace lighting must be equal to at least 200 lux.
Operate CE marked machinery and equipment in compliance with the manufacturer's instructions. Use work instruments in good conditions.
Use the transport and lifting equipment recommended in the instructions manual.
Use safety-compliant portable ladders of adequate size, fitted with anti-slip devices at the top and bottom, equipped with retainer hooks.

2.2 TRANSPORT AND STORAGE

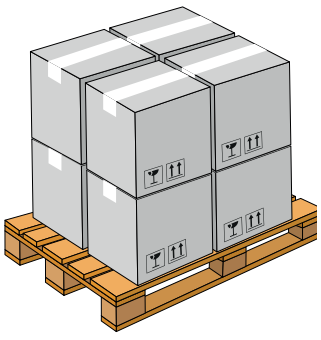
4 Symbols: markings on packaging

	Read the instructions
	Handle with care. Fragile parts
	Store away from water and humidity
	Percent storage humidity
	Storage temperature
	DO NOT stack pallets
	Maximum number of stackable packages
	This way up: DO NOT turn over
	CE marking

PALLETISED SUPPLY

RISKS

PERSONAL PROTECTIVE EQUIPMENT

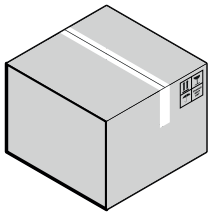


Follow the instructions on the packaging during handling.
Use a forklift or pallet truck, following safety regulations to avoid the risk of impacts or collisions.

SINGLE PACKAGE

RISKS

PERSONAL PROTECTIVE EQUIPMENT



Follow the instructions on the packaging during handling.

STORAGE

Store the product in its original packaging, in closed and dry premises, protected from the sun and free from dust and aggressive substances. Protect from mechanical stress. If stored for more than 3 months, regularly check the condition of the components and the packaging.

- Storage temperature: 5°C to 30°C.
- Percentage of humidity: 30% to 70%.

2.3 UNPACKING AND HANDLING

RISKS

PERSONAL PROTECTIVE EQUIPMENT

1. Open the package.
2. Remove all the contents.

Do not lift the gearmotor by its cables.

Check that all components are present and intact ✎1.

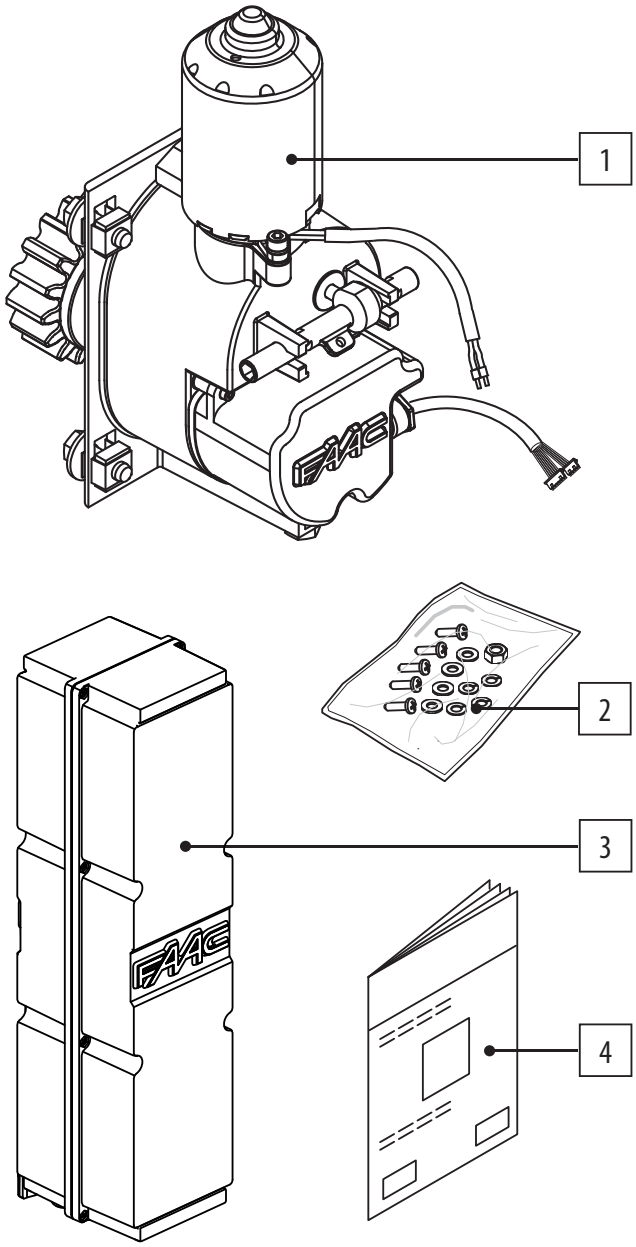
3. Dispose of the packaging materials.

The packaging materials (plastic, polystyrene etc.) must not be left within reach of children as they are potential sources of danger.

2.4 WASTE DISPOSAL

After having dismantled the product, dispose of it in compliance with the current waste disposal regulations.

Components and structural materials, batteries and electronic components must not be disposed of together with household waste. They must be taken to authorised disposal and recycling centres.



1	N° 1 C4000I gearmotor
2	N° 1 fasteners
3	N° 1 E4000I electronic board
4	N° 1 instructions manual

✎1

3. C4000I

3.1 INTENDED USE

FAAC C4000I series gearmotors are designed to operate horizontal sliding gates for residential use.
The C4000I must only be installed in suitably prepared metal columns as shown in § 4.2.
One gearmotor must be installed for each leaf. The gate must be moved via a rack.
Installations using the C4000I must be used for vehicular traffic.
To move the gate manually, follow the instructions in the Manual Operation section.

⚠ Any other use that is not expressly specified in these instructions is prohibited and could affect the integrity of the product and/or represent a source of danger.

3.2 LIMITATIONS OF USE

The maximum force required to move the leaf by hand over its entire length of travel must be 225 N for residential areas and 260 N for industrial or commercial areas.
The maximum force required to start the movement must be less than the maximum thrust force of the operator indicated in the technical data.
The leaf must fall within the dimensional and weight limits indicated in the technical data.
The presence of weather conditions such as snow, ice and strong wind, even occasional, could affect the correct operation of the automation, the integrity of the components and be a potential source of danger (see § Emergency use).
C4000I is not designed to be a security (break-in protection) system.
If there is a pedestrian access gate integrated in the leaf of the gate, the motorised movement must be disabled when the pedestrian gate is not in a safe position.
The installation must be visible during the day and at night. If it is not, appropriate solutions must be provided to make the fixed and moving parts visible.
Implementing the automation requires the installation of the necessary safety devices, identified by the installer through an appropriate risk assessment of the installation site.

3.3 UNAUTHORISED USE.

- Uses other than the intended use are prohibited.
- It is prohibited to install the automation system outside of the limits specified in the Technical Data and Installation Requirements sections.
- It is forbidden to use C4000I in a constructional configuration other than the one provided by the manufacturer.
- No component part of the product may be modified.
- It is prohibited to install the automation system on escape routes.
- It is prohibited to install the automation system to create fire doors.
- It is prohibited to install the automation system in environments in which there is a risk of explosion and/or fire: the presence of flammable gases or fumes is a serious safety hazard.
- It is prohibited to power the system with energy sources other than those specified.
- It is prohibited to integrate commercial systems and/or equipment other than those specified, or use them for purposes not intended and authorised by their respective manufacturers.
- Do not allow water jets of any type or size to come into direct contact with the gear motor.
- Do not expose the gear motor to corrosive chemicals or atmospheric agents.
- It is prohibited to use and/or install accessories which have not been specifically approved by FAAC S.p.A.
- It is prohibited to use the automation system before performing commissioning.
- It is prohibited to use the automation system in the presence of faults which could compromise safety.
- It is prohibited to use the automation system with the fixed and/or mobile guards removed or altered.
- Do not use the automation system unless the area of operation is free of persons, animals or objects.
- Do not enter/remain in the area of operation of the automation system while it is moving.
- Do not try to prevent the movement of the automation system.
- Do not climb on, hold onto or let yourself be pulled by the leaf. Do not climb onto the gear motor.
- Do not allow children to approach or play in the area of operation of the automation system.
- Do not allow the control devices to be used by anyone who is not specifically authorised and trained to do so.
- Do not allow the control devices to be used by children or persons with mental and physical deficiencies unless they are supervised by an adult who is responsible for their safety.

⚠ During manual operation, gently guide the leaf the whole way, do not push it and let it slide freely.

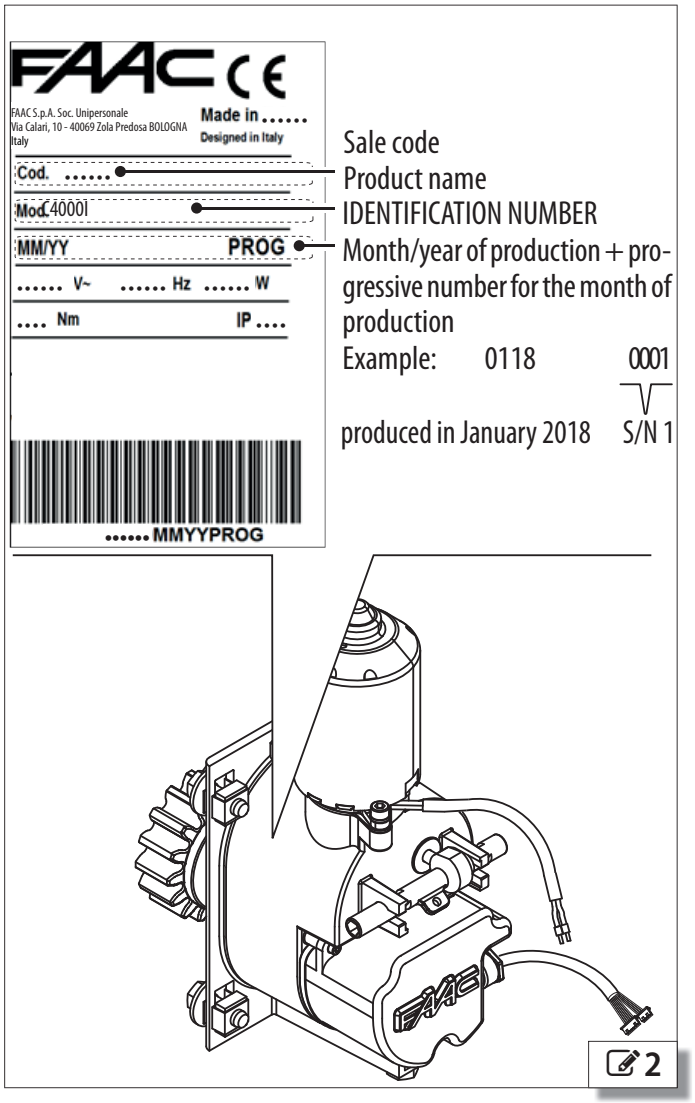
3.4 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation and disconnect the buffer batteries if there are any. If the leaf can be moved safely by hand, use the MANUAL OPERATION mode; otherwise place the automation out of service until it has been reset/repaired.

In the case of a breakdown, the automation must be reset/repaired exclusively by the installer/maintenance technician.

3.5 PRODUCT IDENTIFICATION

The product is identified by the plate **2**.



3.6 TECHNICAL CHARACTERISTICS

The C4000I is designed to be installed in a column, the minimum internal dimensions of which are 110x110 mm.

The C4000I is equipped with an absolute magnetic encoder that is used by the board to determine the positions of the gate limit switches without the need for additional external devices. In addition, the encoder allows the position and speed of the gate to be accurately controlled, thereby obtaining an anti-crushing with reverse on obstacle detection function.

To install systems that have two opposite opening leaves, two C4000I should be installed in a Master-Slave configuration.

The C4000I is not reversible: to move the gate manually, follow the instructions in the Manual Operation section.

5 Technical data

Model	C4000I
Power supply voltage	220-240V~ 50/60 Hz
Electric motor	24 V⎓
Max power	150 W
Max. thrust	125 N
Pinion	Z16 module 4
Max leaf length	8 m
Max leaf weight	400 kg
Max. cantilever leaf weight	250 kg
Leaf speed	16 m/min
Ambient operating temperature	-20 °C to +55 °C
Type of use	Residential
Continuous use time (ROT)	Continuous
Protection rating	IP30
Dimensions (L x D x H)	110 x 180 x 250 mm
Weight	3.5 kg

3.7 COMPONENT IDENTIFICATION

C4000I

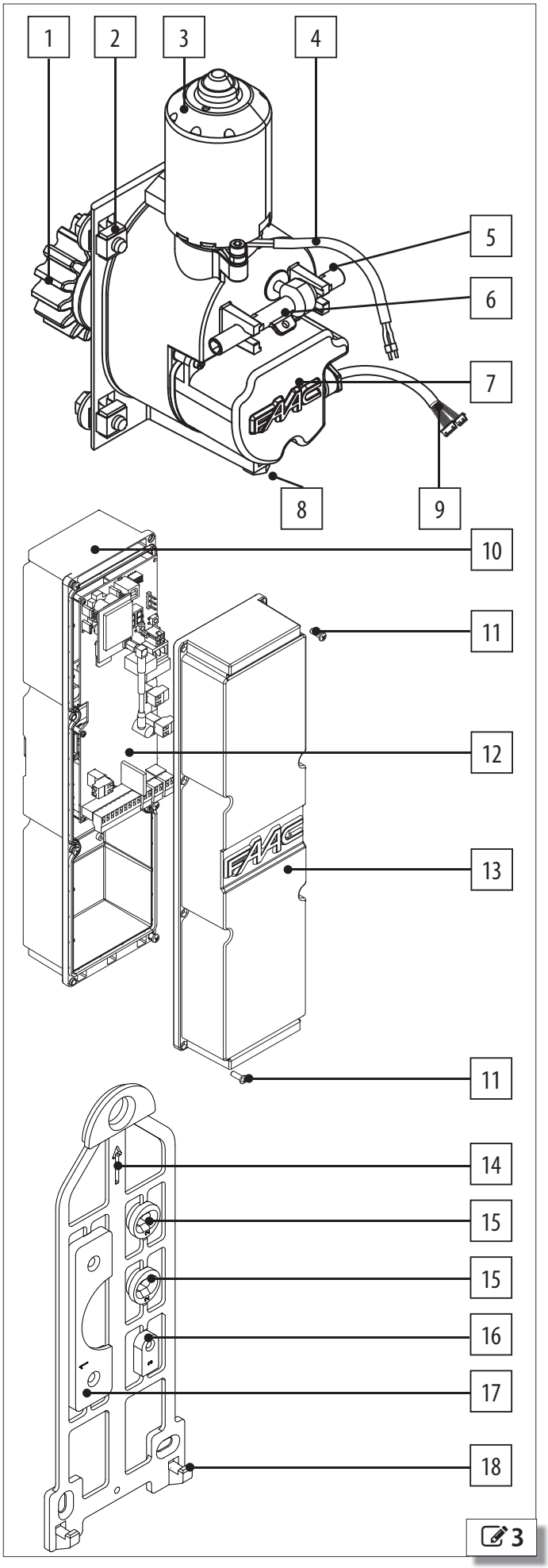
1	Pinion
2	Cage nut
3	Electric motor
4	Electric motor cable
5	Side release hex socket
6	Central release lever/prepared for remote release
7	Encoder
8	Height adjustment system
9	Encoder cable

E4000I

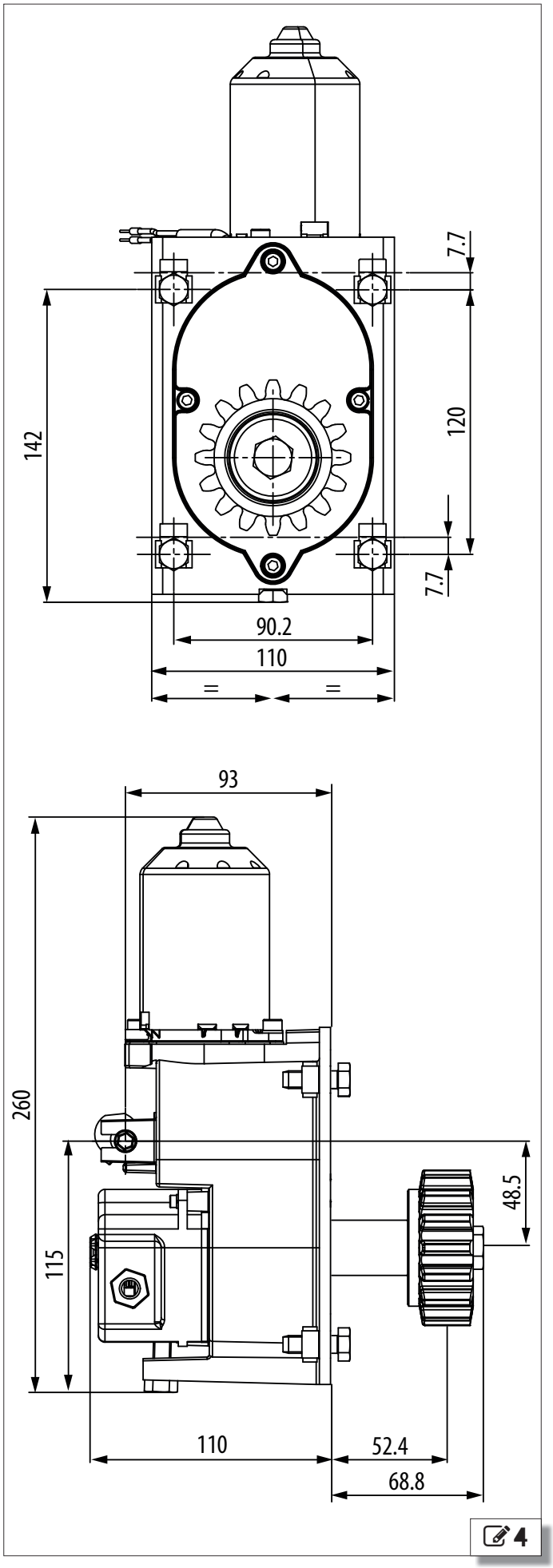
10	Enclosure
11	Enclosure fastening screws
12	Boards
13	Enclosure cover

ENCLOSURE MOUNTING BRACKET

14	This way up arrow
15	Removable bush
16	Emergency battery fitting (optional)
17	Board bracket fitting
18	Enclosure mounting tab



3.8 DIMENSIONS



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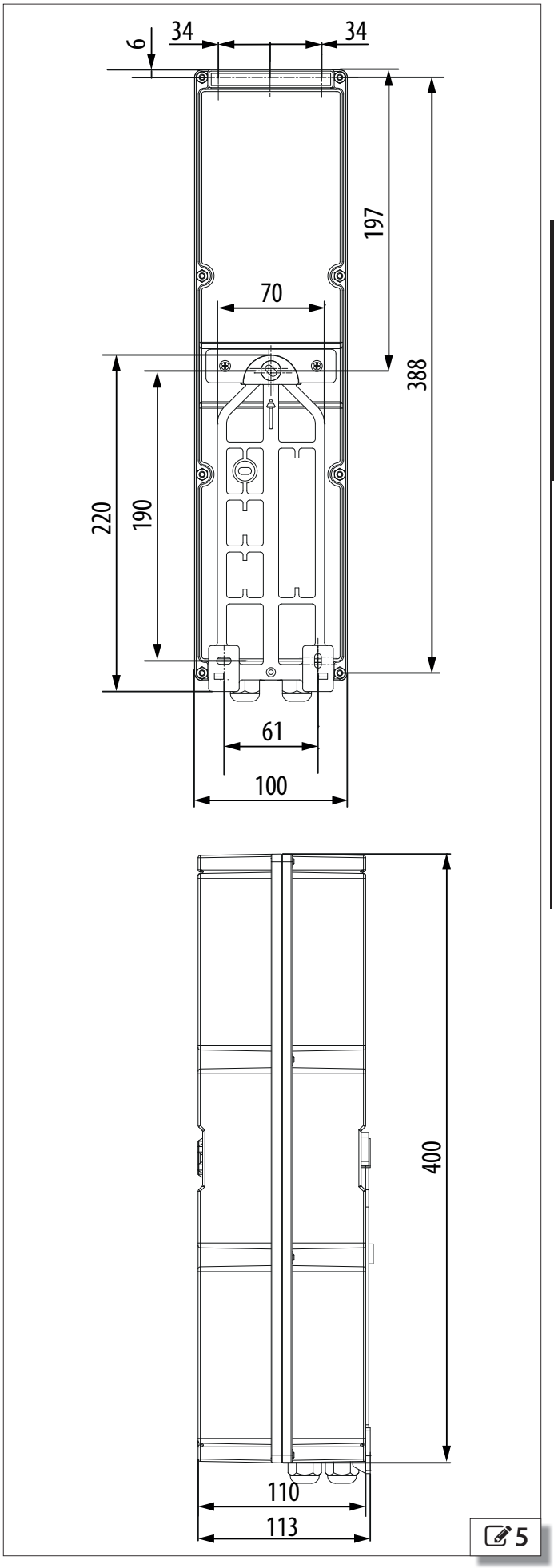


5

3.9 MANUAL OPERATION

Before carrying out the release procedure, disconnect the power supply to the automation system.
During manual operation, gently guide the leaf the whole way, do not push it and let it slide freely.
Do not leave the gate with the release engaged: after moving it manually, restore automatic operation.

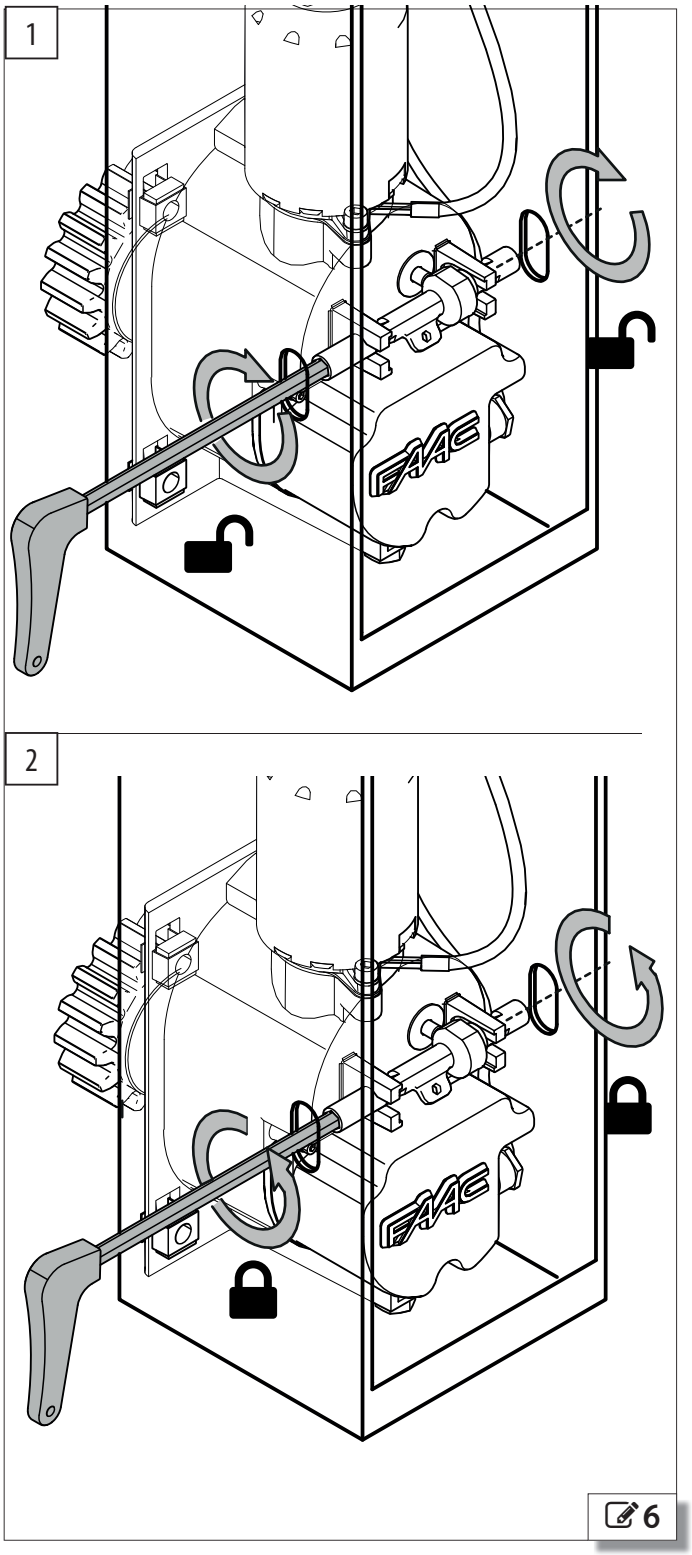
The gate can be released from either side of the column.

RELEASE PROCEDURE

1. Insert the release device and rotate it a quarter turn, as shown in figure **6**-1
2. Move the barrier manually.

RESTORING AUTOMATIC OPERATION

1. Insert the release device and rotate it a quarter turn as shown in figure **6**-2.
2. Make sure that the gate cannot be moved manually and then remove the release device.



4. INSTALLATION REQUIREMENTS

4.1 MECHANICAL REQUIREMENTS

The mechanical structural components must comply with the requirements of EN 12604. Before installing the automation, the suitability of the mechanical requirements must be established and any work that is necessary in order to meet them carried out.
The essential mechanical requirements are as follows:

⚠ Solid ground to support the weight of the gate, the structures present and the gearmotor. Flat, horizontal paving in the area of movement of the leaf. There must be no chance of water accumulating in the installation area.

The structure (columns, guides, mechanical stops, leaf and counterweights) must be solid and there must be no risk of detachment or collapse (considering the weight of the leaf and the forces applied by the gearmotor and wind action). Perform structural calculations where necessary.

The structure must show no signs of corrosion or cracking.

An installation column of a suitable dimension for the gearmotor.

The leaf must remain vertical throughout the entire length of travel, with a regular, smooth and uniform movement. The path along which the leaf slides must be perfectly horizontal (the leaf must not have a tendency to open or close spontaneously when it is released).

Appropriate devices must be installed to prevent the leaf from falling.

There should be a solid surface on the leaf sufficiently large to attach the rack to.

The sliding guides must be in good condition; they must be straight and not deformed, they must be fastened securely and there must be no obstacles along their entire length. The diameter of the guide wheels must be appropriate for the weight and length of the leaf and their profile section must coincide with that of the sliding guide. The number and position of the wheels must ensure an adequate and constant distribution of the weight.

A solid guide system for the suspended leaf in the case of a cantilever gate.

Presence of upper containing guide to prevent vertical oscillation of the leaf. The leaf must not under any circumstances come out from its guides and fall. Wheels, rollers and bearings in good condition, lubricated and free from play or friction.

Presence of external mechanical limit stops to limit the travel of the leaf when opening and closing. The stops must be suitably sized and solidly fastened so that they resist any impact of the leaf in the event of improper use (leaf pushed and left to slide freely). The mechanical limit stops must be positioned at 50 mm beyond the stop position of the leaf, and must ensure that the leaf remains inside its sliding guides.

The thresholds and protrusions of the paving must be appropriately shaped in order to prevent the risk of sliding or slipping.

For the creation of detection loops, refer to the specific instructions.

Presence of a safety area between the wall (or other fixed element) and the furthest protruding part of the open leaf, to protect against the risk of persons becoming trapped/crushed. Alternatively, check that the opening force required falls within the maximum permissible limits according to applicable standards and legislation.

Presence of safety areas between the fixed and moving parts, to protect against the risk of hands being trapped. Alternatively, apply protective elements that prevent fingers from being introduced.

Presence of a safety area between the paving and lower edge of the leaf, along its entire path, providing protection from the risk of feet becoming caught in and crushed beneath the wheels. Alternatively, apply protective elements preventing the introduction of feet.

No sharp edges or protruding parts should be present to ensure there are no cutting, hooking or perforation hazards. Alternatively, eliminate or protect any sharp edges and protruding parts.

No slots or openings should be present on the sliding leaf or the fencing to prevent the creation of a shearing hazard. Alternatively, apply protective mesh to any such openings. The mesh should be sufficiently fine to prevent introduction of body parts requiring protection, in relation to the distance between the fixed and moving parts.

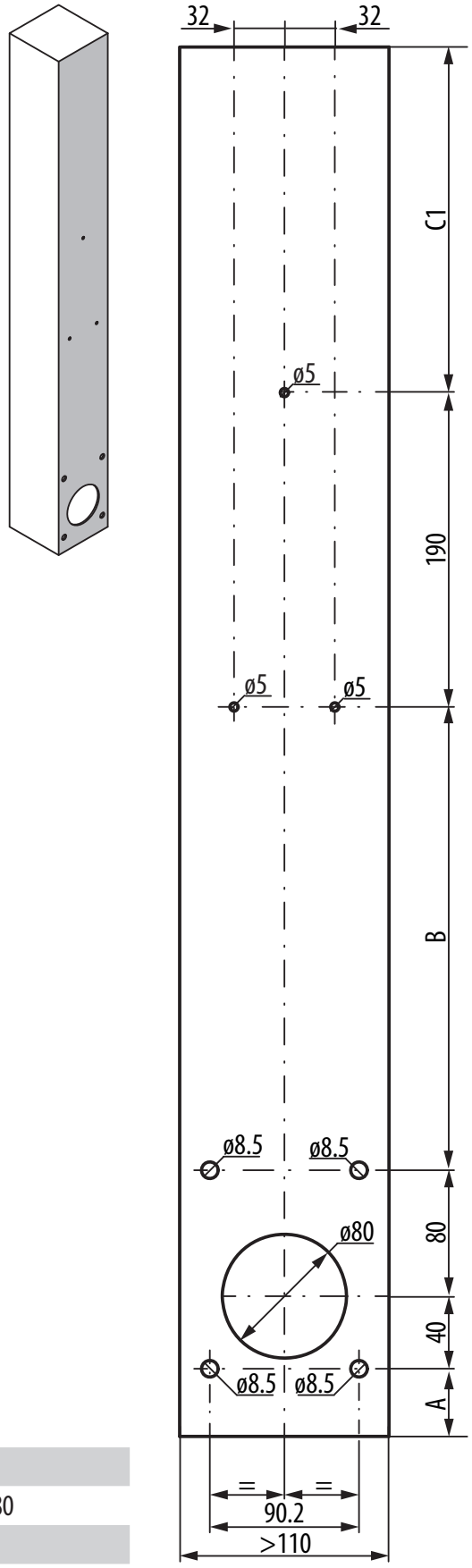
For the minimum dimensions to prevent crushing/shearing of body parts, refer to EN 349. For the safety distances required to prevent danger zones being reached, refer to ISO 13857.

If the area of installation gives rise to the risk of impact by vehicles, provide an appropriate protective structure to protect the gearmotor.

4.2 PREPARING THE COLUMN

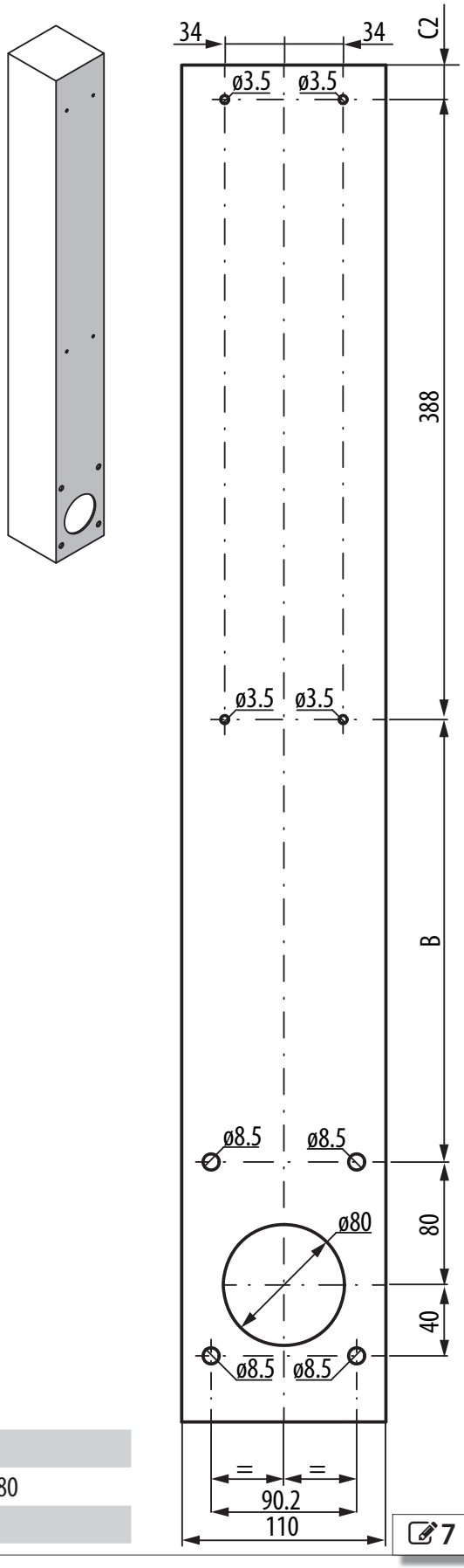
The dimensions, hole positions and the door opening of the column must be correct. The dimensions shown refer to the internal dimensions of the column. If the rack has already been mounted, follow the installation specifications (§ 5.3).

INSTALLATION WITH ENCLOSURE MOUNTING BRACKET **A**



A > 30
B 180 . . . 280
C1 > 200

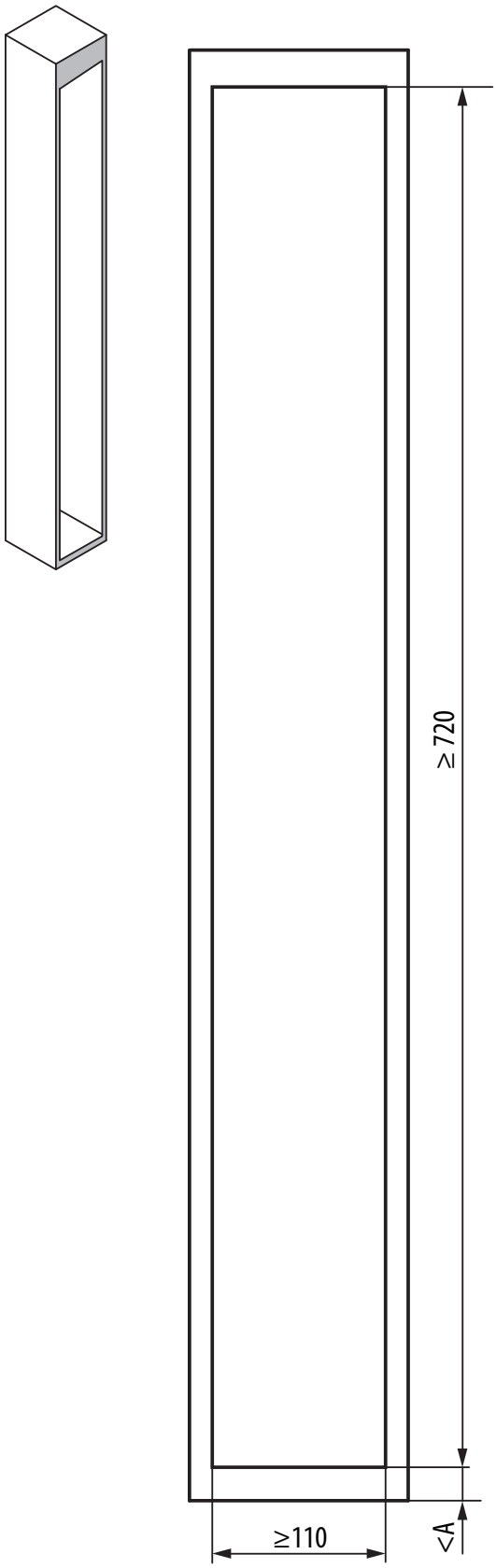
INSTALLATION WITHOUT ENCLOSURE MOUNTING BRACKET **B**



A > 30
B 180 . . . 280
C2 >10

7

DOOR OPENING MEASUREMENTS



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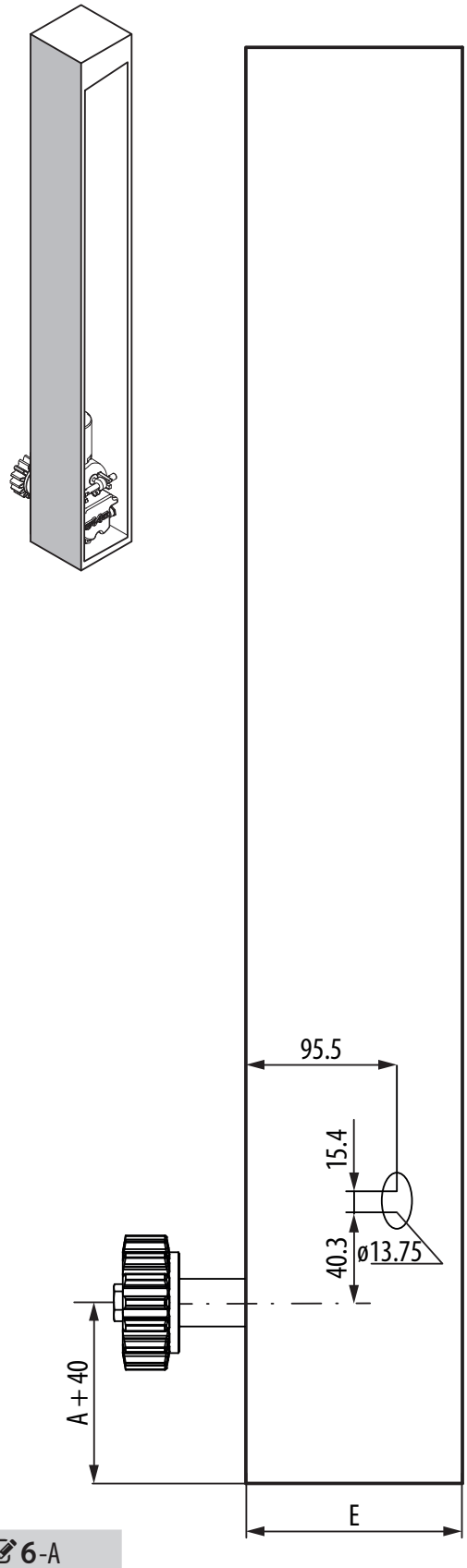
GATE RELEASE SLOT POSITION

The gate release slot can be on either side of the column.



E ≥ 113 6-A

E ≥ 110 6-B

9

4.3 ELECTRICAL SYSTEM

Always shut off the power supply before performing any work. If the disconnect switch is not in view, apply a warning sign stating "WARNING - Maintenance in Progress".

The electrical system must comply with applicable legislation in the country of installation.

Use components and materials with CE marking which are compliant with the Low Voltage Directive 2014/35/EU and EMC Directive 2014/30/EU.

The power supply line for the automation must be fitted with a multi-pole circuit breaker, with a suitable tripping threshold, a contact opening distance of at least 3 mm and a breaking capacity that complies with current regulations.

The power supply for the automation must be fitted with a 30 mA differential switch.

The metal parts of the structure must be earthed.

Check that the protective earthing system complies with applicable regulations in the country of installation.

The electrical cables of the automation system must be of a size and insulation class that is compliant with current legislation and laid in appropriate rigid or flexible conduits, either above or below ground.

Use separate conduits for the power supply and the 12-24 V control devices / accessories cables.

In the case of a Master-Slave configuration, a cable conduit has to be installed for the cables that connect the two electronic boards.

Check buried cable plans to ensure that there are no other electrical cables in proximity to the planned digging/drilling locations to prevent the risk of electrocution.

Check that there are no pipes in the vicinity as well.

The external electronic board must be housed in an enclosure that has a minimum IP 44 protection rating and fitted with a lock or another type of device to prevent access by unauthorised persons. The enclosure must be located in an accessible and non-hazardous area and at least 30 cm from the ground. The cable outlets must face downwards.

The conduit fittings and the cable glands must prevent the entry of moisture, insects and small animals.

Protect extension connections using junction boxes with an IP 67 protection rating or higher.

The overall length of the BUS cables must not exceed 100 m.

It is recommended to install a flashing light in a visible position to indicate when it is moving.

The control accessories must be positioned in areas that are always accessible and not dangerous for the user. It is recommended to position the control accessories within the field of view of the automation.

If an emergency stop button has been installed, it must be EN13850 compliant.

Comply with the following heights from the ground:

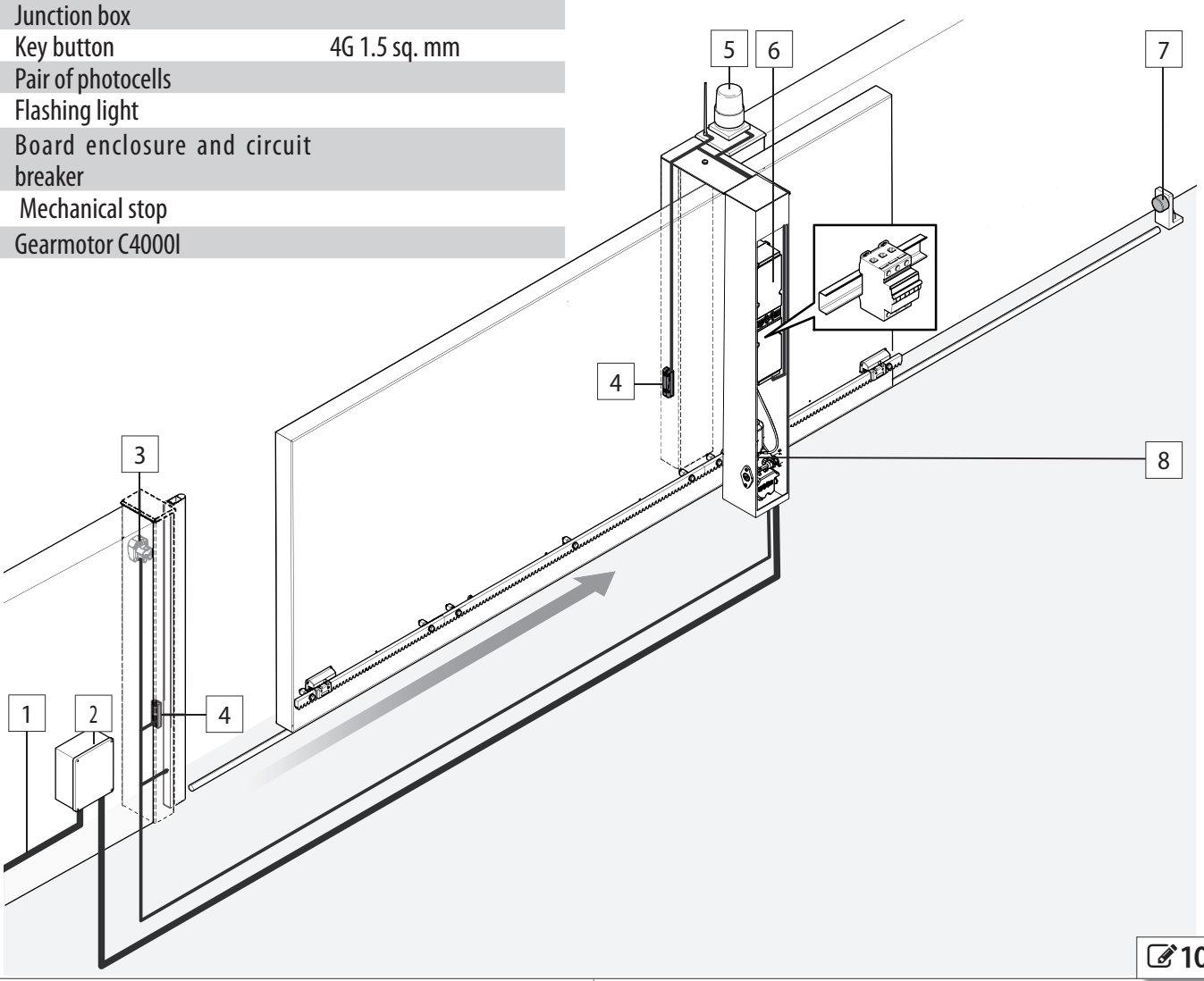
- control accessories = minimum 150 cm
- emergency buttons = maximum 120 cm

If the manual controls are intended to be used by disabled or infirm persons, highlight them with suitable pictograms and make sure that these users are able to access them.

4.4 EXAMPLE SYSTEM

The example is an illustration only and is just one of the possible applications of the C4000I (✎**10**).

Example system	Minimum wire cross section
1 Mains power supply	3G 1.5 sq. mm
2 Junction box	
3 Key button	4G 1.5 sq. mm
4 Pair of photocells	
5 Flashing light	
6 Board enclosure and circuit breaker	
7 Mechanical stop	
8 Gearmotor C4000I	



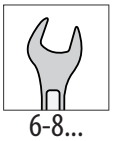
✎**10**

5. MECHANICAL INSTALLATION

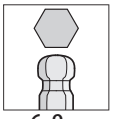
The installation must comply with Standards EN 12453 and EN 12445.
Mark off the work site and prohibit access/transit.

5.1 TOOLS REQUIRED

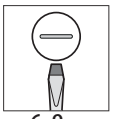
6 Symbols: tools (type and size)


6-8...

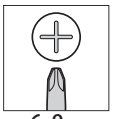
HEX WRENCH of the specified size (6, 8...)


6-8...

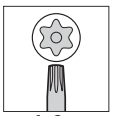
ALLEN KEY with ROUND HEAD of the specified size (6, 8...)


6-8...

FLAT-HEAD SCREWDRIVER of the specified size (6, 8...)

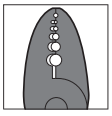

6-8...

CROSS-HEAD SCREWDRIVER of the specified size (6, 8...)


6-8...

TORX SCREWDRIVER of the size indicated (6, 8...)

ELECTRICIAN'S SCISSORS

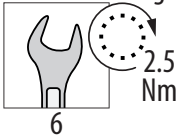


WIRE STRIPPERS


6-8...

METAL DRILL BITS of the specified size (6, 8...)

TOOL with TORQUE ADJUSTMENT
Where necessary for safety, a torque wrench with the specified tightening torque will be shown.
FASTENING TORQUE VALUE
The torque wrench and the tightening torque in Nm is shown in the figures. E.g.: SPANNER 6 set at 2.5 Nm



5.2 INSTALLING THE GEARMOTOR

RISKS

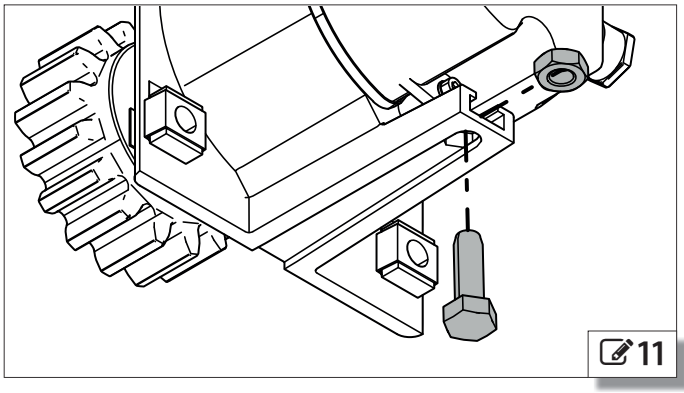
PERSONAL PROTECTIVE EQUIPMENT

1. Fit the screw and nut onto the height adjustment system **11**. Loosely tighten the screw by hand.
2. Place the gearmotor in the installation column so that the holes match up with the cage nuts **12**.

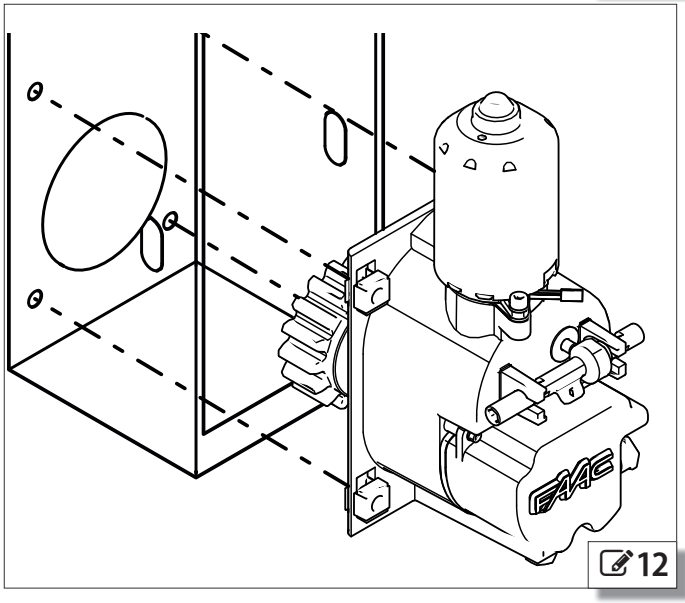
DO NOT lift the motor by the cables. Support it from its base.

3. To make the following steps easier, the gearmotor can be kept at the fixing height by loosening the fastening screw until it rests on the ground.
4. Fix the gearmotor to the column making sure that you fit the washer and the split washer in the correct order **13**.

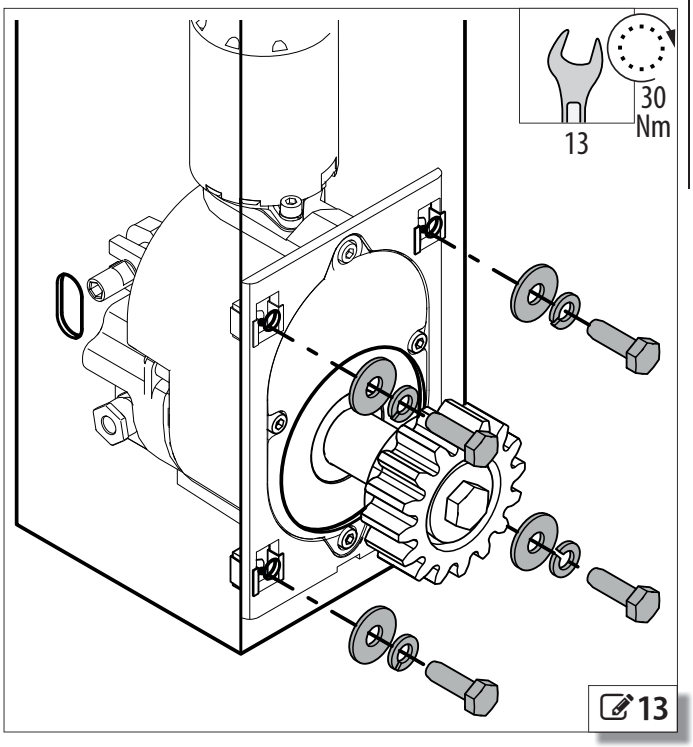
Use the torque wrench to tighten to the torque shown in the figure.



11



12



13

5.3 INSTALLING THE RACK

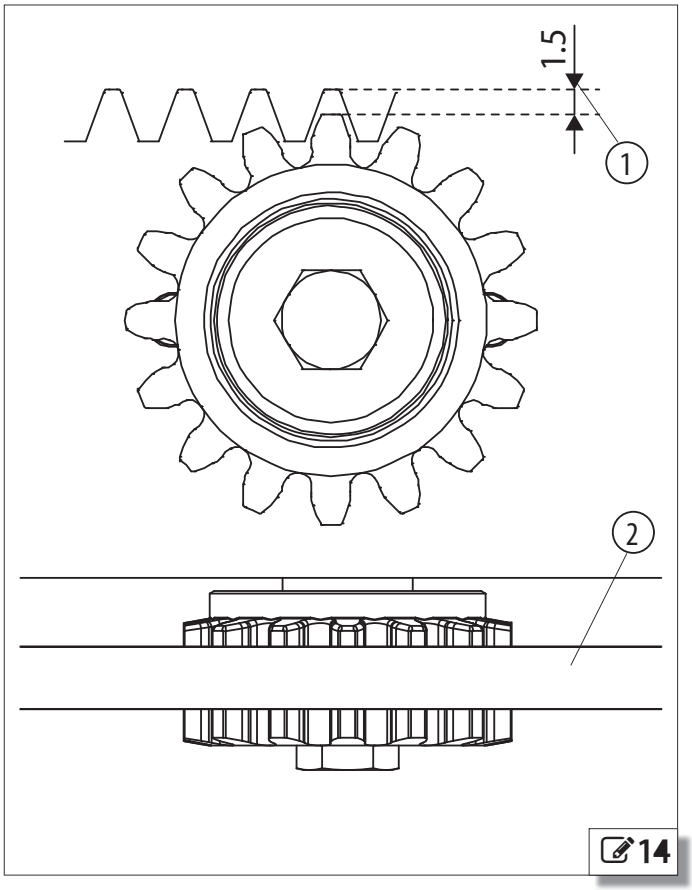
RISKS

PERSONAL PROTECTIVE EQUIPMENT

The instructions for installing the rack are not supplied. Install the rack following the instructions given in the specific manual.
In order to prevent damage to and the proper operation of the gearmotor, the following conditions must be met:

- there must be a distance of 1.5 mm between the teeth of the rack and the teeth of the pinion over the entire stroke (✎**14**-1)
- the rack sections must not be welded together or to the spacers
- the rack must slide within the width of the pinion along its entire length (✎**14**-2)
- there must be no friction

Do not use grease or other lubricants between the rack and the pinion.



✎**14**

5.4 INSTALL THE CABLE GLANDS

RISKS

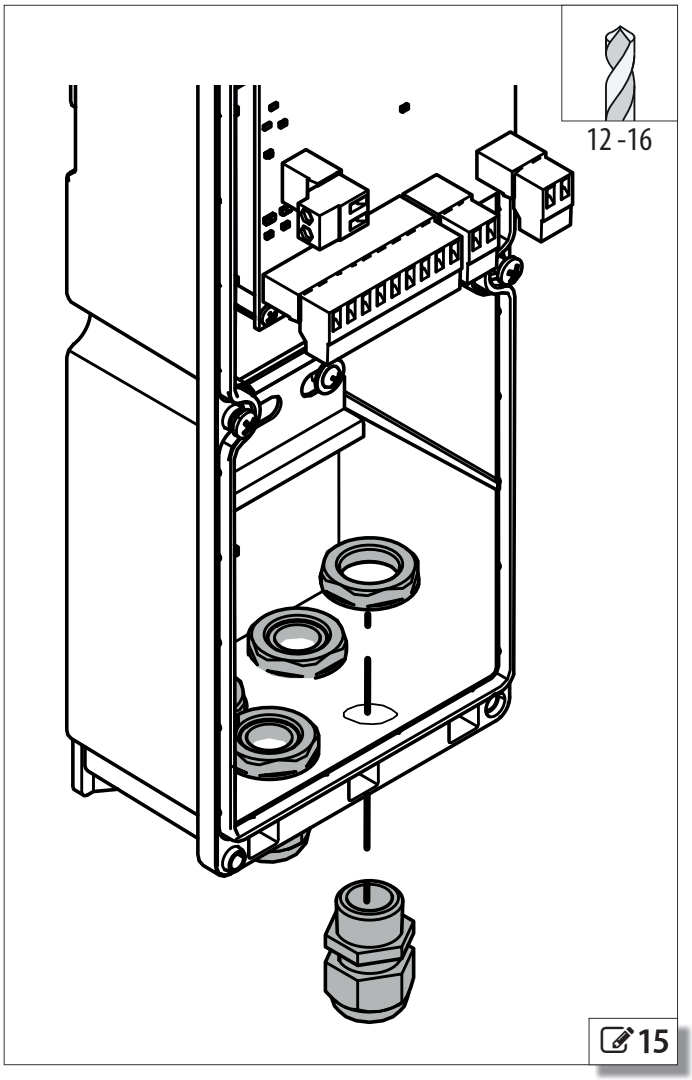
PERSONAL PROTECTIVE EQUIPMENT

1. Unscrew the enclosure cover screws.
2. Remove the cover.
3. Drill out the blank holes for the cable glands on the enclosure using a Ø 16 mm drill bit.

Make a hole for the encoder cable using a Ø 12 mm drill bit.

4. Fit the cable glands provided into their seats ✎**15**.
5. Screw the cable glands onto the enclosure as far as they will go.

Place only one cable into each cable gland.



✎**15**

5.5 INSTALL THE ELECTRONIC BOARD ENCLOSURE

WITH ENCLOSURE MOUNTING BRACKET

RISKS

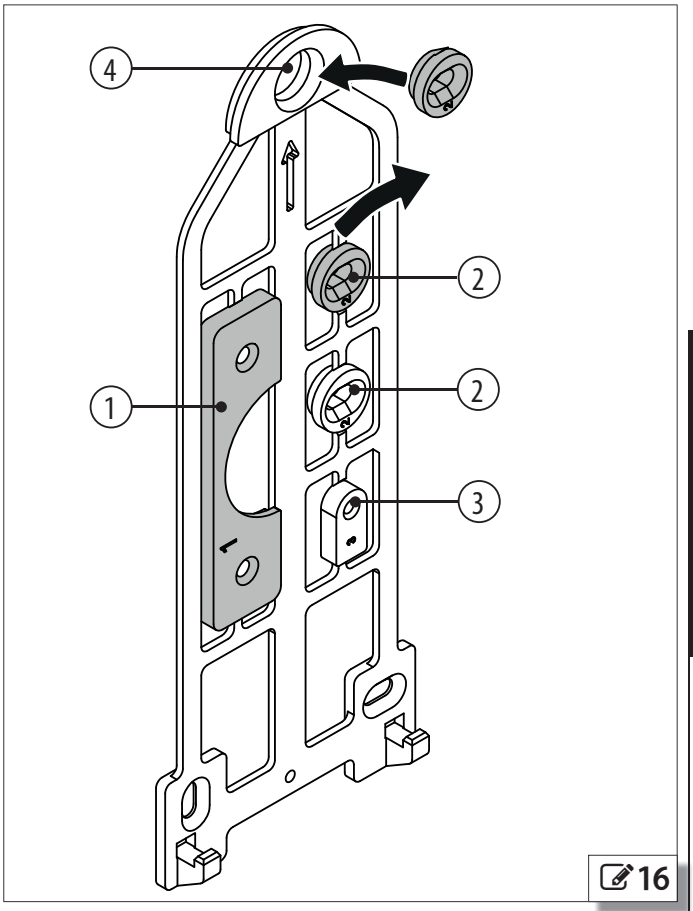
PERSONAL PROTECTIVE EQUIPMENT

The enclosure mounting bracket can only be installed on columns having internal dimensions greater than 110x113 (LxP).

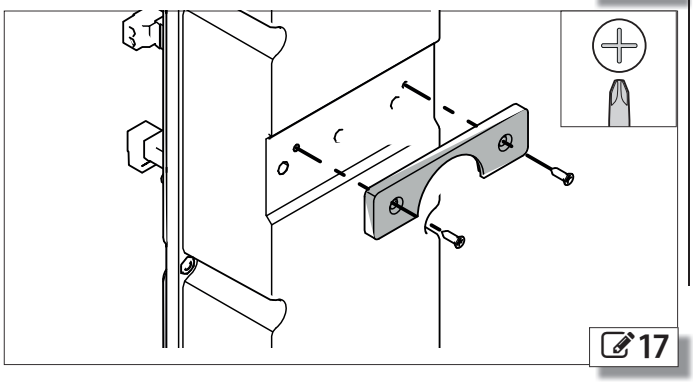
1. ✎**16** Remove the bushes **2**, the mounting bracket fitting **1** and the emergency battery fitting **3**. Keep them to one side for the following procedures.
2. Insert the bush **2** into the housing **4**.
3. Fasten the mounting bracket fitting **1** (✎**17**-1) onto the base of the enclosure using the 2 screws provided.
4. Fasten the mounting bracket to the column using the previously drilled holes with 3 screws and 3 nuts (not supplied) (✎**18**).

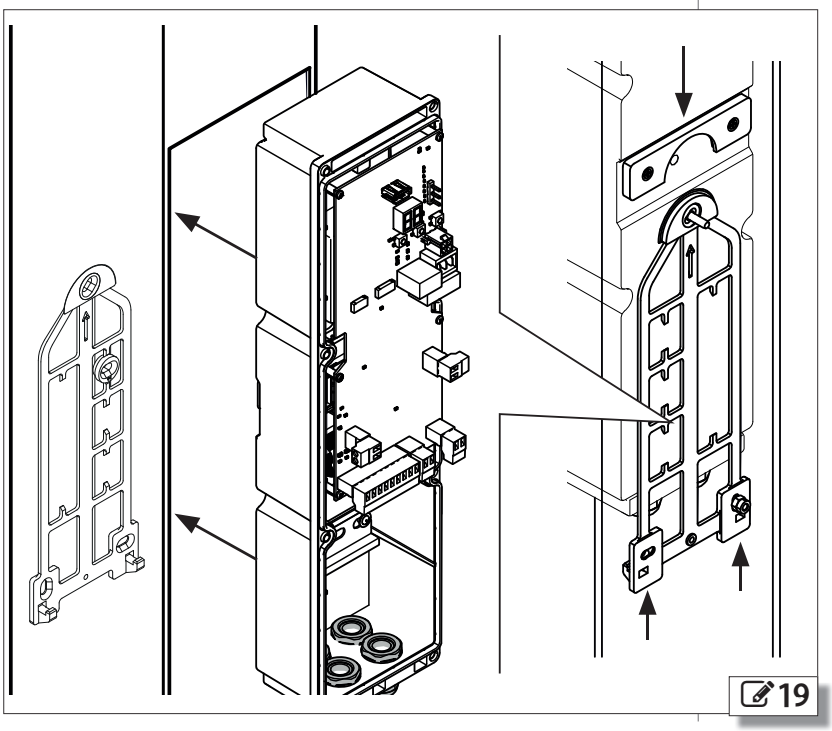
Install it with the arrow facing upwards.

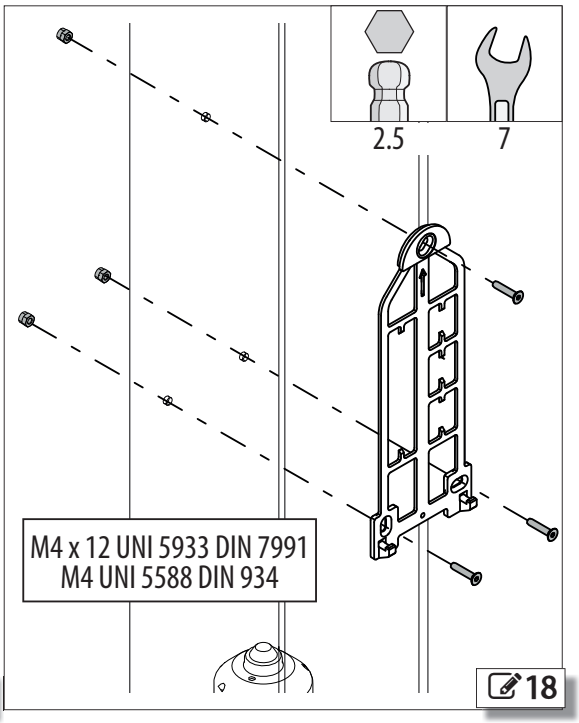
5. Insert the enclosure and rest it against the column. Then move it downwards and slide it onto the 3 mounting points (✎**19**).



✎16


✎17


✎19



✎18

ENGLISH

Translation of the original instructions

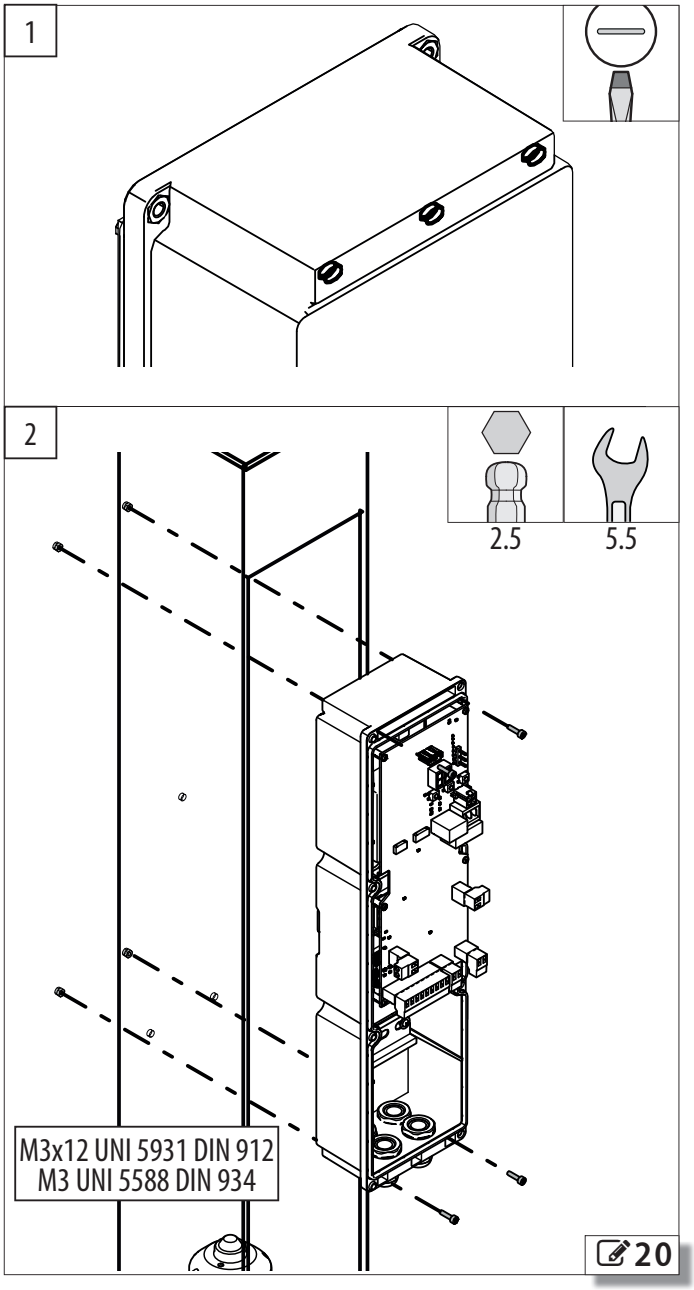
WITHOUT ENCLOSURE MOUNTING BRACKET

RISKS

PERSONAL PROTECTIVE EQUIPMENT

The enclosure can be installed without using the mounting bracket in columns having an internal dimension of 110 x110 or greater.

1. Using a screwdriver, punch out the knockouts on the board enclosure (✎**20**-1)
2. Fasten the enclosure to the column via the previously drilled holes using the screws and nuts (not supplied) (✎**20**-2).



6. ELECTRONIC INSTALLATION

RISKS

PERSONAL PROTECTIVE EQUIPMENT

ALWAYS DISCONNECT THE POWER SUPPLY before working on the board. Turn power on only after having made all the electrical connections and carried out the preliminary start-up checks.

6.1 E4000I COMPONENTS

7 Technical data

Power supply voltage	220-240V~ 50/60 Hz
Max power	150 W
Accessories power supply voltage	24 V ⎓
Max. accessories load	1 A
Max. BUS 2easy accessories load	500 mA
Max. flashing light load	15 W
Protection rating	IP44
Ambient operating temperature	-20 °C to +55 °C

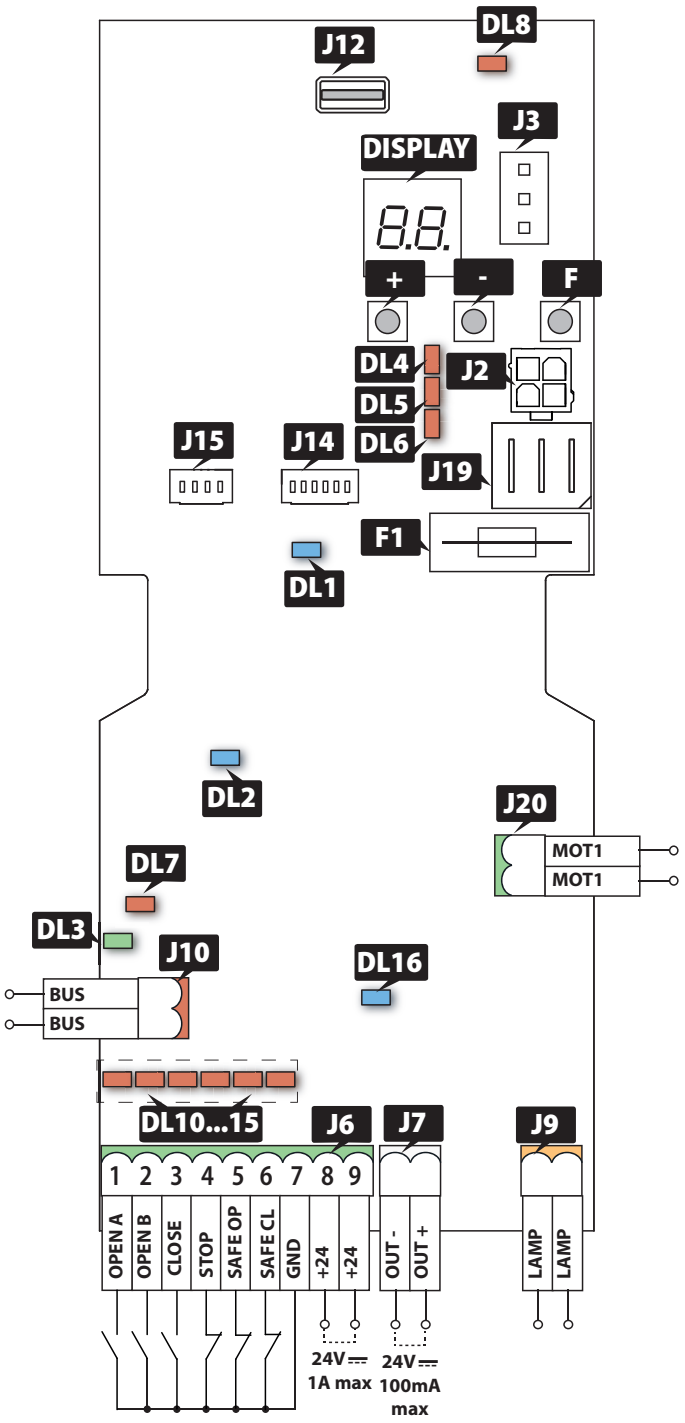
See figure **21**

BOARD:	
J2	Connector for XBAT 24 battery
J3	Connector for XF radio module
J6	Terminal board for accessories
J7	Terminal board for output OUT
J9	Terminal board for flashing light
J10	BUS 2easy terminal board
J12	Connector for USB device
J14	Connector for encoder
J15	Connector for encoder
J19	Board power cable connector
J20	Terminal board for motor
F1	Board protection fuse (F1 = F6.3 A)
DL1	Board power on LED
DL2	Microprocessor power on LED
DL3	BUS 2easy "BUS MON" diagnostic signalling LED
DL4	"RADIO1" (OMNIDEC) signalling LED
DL5	"RADIO2" (OMNIDEC) signalling LED
DL6	"ERROR" error/alarm signalling LED
DL7	Device signalling LED to BUS 2easy ACTIVE

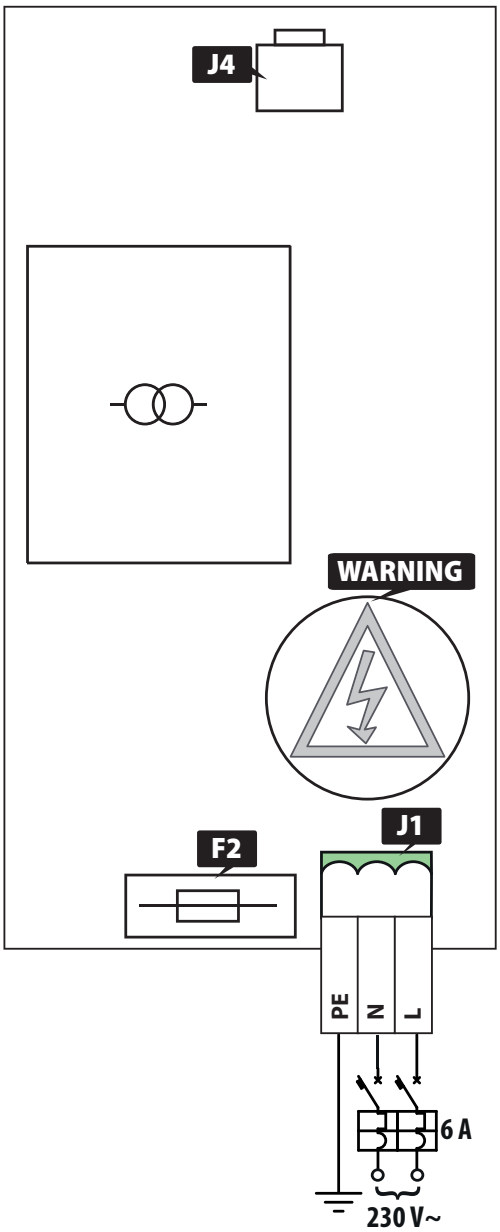
BOARD:	
DL8	"USB" signalling LED
DL10	OPEN A status LED
DL11	OPEN B status LED
DL12	CLOSE status LED
DL13	STOP status LED
DL14	SAFE OP status LED
DL15	SAFE CL status LED
DL16	Accessories power on LED

POWER SUPPLY UNIT	
J1	Mains power supply terminal board
J4	Board power cable connector
F2	Board protection fuse (F2 = F2.5A)
WARNING	ELECTRIC SHOCK HAZARD

BOARD



POWER SUPPLY UNIT



21

6.2 CONNECTIONS

Always switch off the electricity supply before making connections.

For the Master-Slave configuration, please see the specific section.

BOARD-POWER SUPPLY CABLE

The cable is connected at the factory between connectors J19 of the board and J4 of the power supply.

MOTOR

1. Route the motor cable through one of the cable glands at the base of the enclosure.
2. Connect the cable to terminal board J4 following the colour scheme of the cables (22).

ENCODER

Connect the encoder cable to connectors J14 and J15 of the board (23). Use the cable gland provided.

The encoder must always be connected in order for the automation system to operate.

BUS DEVICES

If no BUS 2easy devices are used, leave the BUS 2easy terminal board free.

For connecting and assigning addresses see 38.

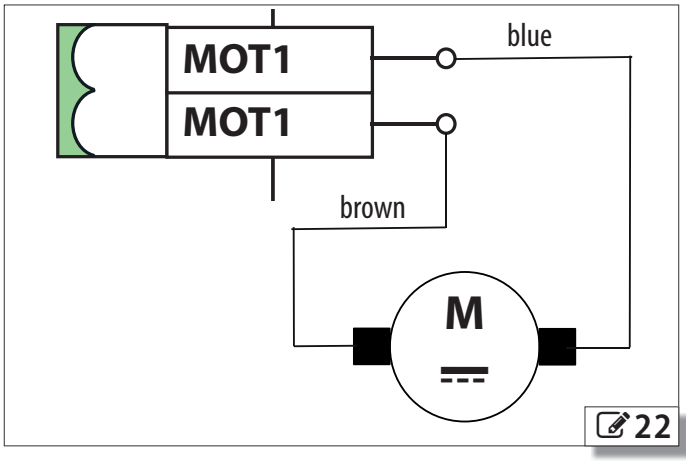
CONTROL DEVICES

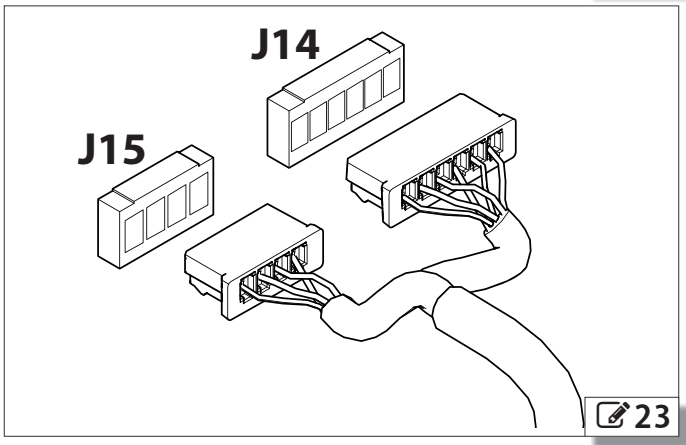
1. Route the control devices cable through one of the cable glands at the base of the enclosure. If necessary, use one of those on the cover of the enclosure.
2. Connect the devices to terminal board J6 of the board (24).

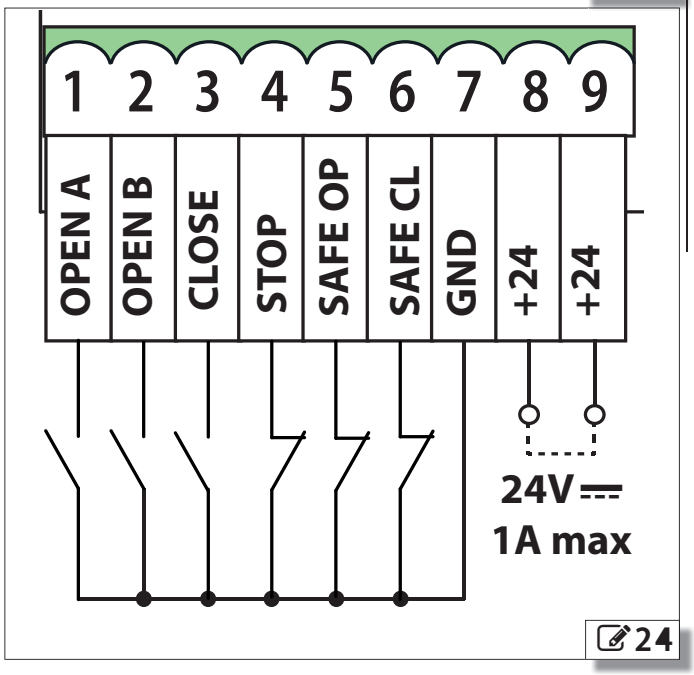
Multiple NO contacts on same input must be connected in parallel. Multiple NC contacts on same input must be connected in series.

TERMINAL BOARD J6:

1	OPEN A	NO contact, connect a push-button or another type of pulse generator which, by closing a contact, commands the TOTAL OPENING of the gate.
2	OPEN B	NO contact, connect a push-button or another type of pulse generator which, by closing a contact, commands the PARTIAL OPENING of the gate If the Hr function (advanced functions) is enabled, it commands the FORCED OPENING of the automation with a maintained command.







ENGLISH

Translation of the original instructions

3	**CLOSE**	NO contact, connect a push-button or another type of pulse generator which, by closing a contact, commands the CLOSING of the gate.
4	**STOP**	NC contact, connect a push-button or another type of pulse generator which, by opening a contact, commands the gate to STOP. - If NO contacts are used, bridge with GND. - If the Hr function (advanced functions) is enabled, NO contact, that commands the FORCED CLOSING of the automation with a maintained command.
5	**SAFE OP**	NC contact, connect a safety edge or other safety device which, by opening a contact, commands the gate to REVERSE during the opening phase.
6	**SAFE CL**	NC contact, connect a safety edge or other safety device which, by opening a contact, causes the gate to REVERSE during the closing phase.
7	GND	Accessories power supply negative and common contact (1 A max.)
8-9	+	Accessories power supply positive 24 V ⎓ (1 A max.).

If safety devices are NOT connected:
- With Fail Safe enabled: bridge the terminals SAFE OP and SAFE CL to OUT − (FAIL SAFE).
- With Fail Safe disabled: bridge the terminals SAFE OP and SAFE CL with GND.

OUTPUT 24 V OUT⎓

Do not exceed the maximum load of 100 mA.

The activation of the output can be configured in advanced programming.
Connect the required devices to terminal board J7 (✎ **25**).

OUT	–	If the output is active, it supplies +0 V ⎓
OUT	+	If the output is active, it supplies +24 V ⎓

FLASHING LIGHT

To connect, see 🔌 **35**.

MAINS POWER CABLE (NOT SUPPLIED)

Use a 3G 1.5 mm² cable.

1. Route the mains power cable through one of the cable glands at the base of the enclosure.
2. Connect the mains power cable to terminal board J1 of the power supply following the colour scheme of the cables (✎ **26**).

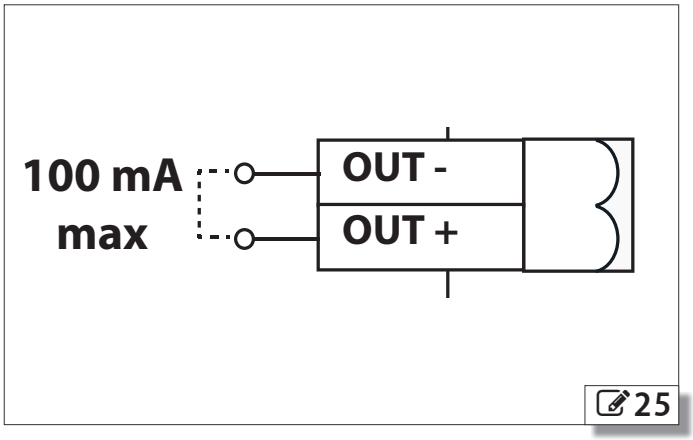
PE	Earth: do not remove the wire	Yellow/green
N	Neutral	Blue
L	Phase	Brown

XF RADIO MODULE

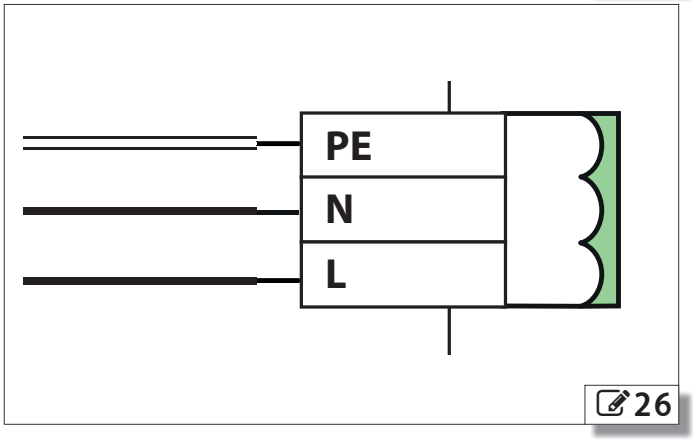
For installation instructions see 🔌 **35**.

XBAT 24 BATTERY

To connect, see 🔌 **35**.



✎ **25**



✎ **26**

7. START-UP

RISKS

PERSONAL PROTECTIVE EQUIPMENT

During operation there is a risk of fingers and hands being trapped between the rack, pinion and cover.
If two gearmotors are installed in the following configuration Master-Slave, before starting up of the Master, it is necessary to have configured the Slave gearmotor (see the specific section).

3. Power up the system (gearmotor Master). The board turns on. The display reads in sequence:
   - bo (Bootloader)
   - firmware version (2 digits separated by a point)
   - LO flashing if set-up is required, or the automated system status
4. Check the status of the LEDs at in standby (see § 12.1)

The BUS 2easy LEDs must be checked after the devices have been registered.

5. Memorise the radio controls present in the system (§ 9.3).
6. Program the E4000I.

Always set the opening direction (dI Basic Programming):

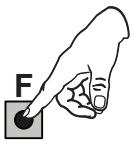
7. Register the BUS 2easy devices, if installed (§ 9.4).
8. Carry out the setup procedure (§ 7.3).
9. If the XBAT 24 battery is being used:
   - Cut off the plant's power supply
   - Connect the XBAT 24 battery
   - Switch on power to the system.
10. Once the functional tests have been completed, it is recommended to save the settings (§ 11).

7.1 PROGRAMMING

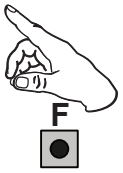
BASIC PROGRAMMING

List of basic functions: ▦ 8

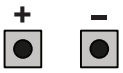
1. Press and hold down **F** until the first basic function appears. (Each function is displayed as long as **F** remains pressed).



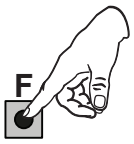
2. Release: the value of the function appears (default or programmed).



3. Use the **+** or **−** button to modify the value.



4. Press **F** to confirm the value displayed. Go to the next function. The modified value becomes effective immediately.



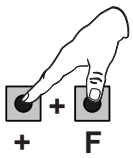
Proceed in the same way for all the functions. The last function (St) allows you to close the program.

5. In St select Y or no using the **+**/**−** buttons:
   Y = save the new program
   no = DO NOT save the new program
6. Press **F** to confirm and close the program. It returns to the automation status view.

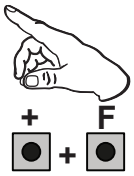
ADVANCED PROGRAMMING

List of advanced functions: ▦ 9

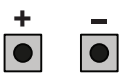
1. Press and hold down **F** and then **+** as well, until the first advanced function appears. (Each function is displayed as long as **F** remains pressed).



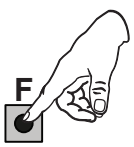
2. Release: the value of the function appears (default or programmed).



3. Use the **+** or **−** button to modify the value.



4. Press **F** to confirm the value displayed. Go to the next function. The modified value becomes effective immediately.

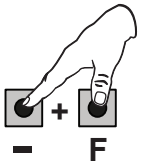


Proceed in the same way for all the functions. The last function (St) allows you to close the program.

5. In St select Y or no using the **+**/**−** buttons:
   Y = save the new program
   no = DO NOT save the new program

6. Press **F** to confirm and close the program. It returns to the automation status view.

To **EXIT from programming mode at any time**:
press and hold down **F** and then **–** as well, to go directly to St.



8 Basic programming

Basic function	Default
dF DEFAULT Displayed if the board is configured with the factory settings (default). Y indicates that all set values correspond to the defaults no indicates that one or more set values are different from the defaults Select Y if you wish to restore the default configuration.	Y
CE MASTER/SLAVE CONFIGURATION MA Configures the board in MASTER mode SL Configures the board in SLAVE mode Some parameters will not be displayed if the board is configured to work in SLAVE mode.	MA
LO OPERATING LOGICS E Semi-automatic A Automatic b Semi-automatic "b" C Person present For an explanation of the logics, please see the specific section.	E
PA PAUSE TIME A (displayed only if an automatic logic is selected) It is the total opening pause time. Adjustable from 00 to 59 sec, in 1 second steps. If 59 is exceeded, the display changes to indicate minutes and tens of seconds (separated by a point) and can be adjusted in steps of 10 seconds, up to a maximum of 9.5 minutes. E.g. If the display indicates 2.5, the time is 2 min. and 50 sec.	20
Pb PAUSE TIME B (displayed only if an automatic logic is selected) It is the partial opening pause time. Adjustable from 00 to 59 sec, in 1 second steps. If 59 is exceeded, the display changes to indicate minutes and tens of seconds (separated by a point) and can be adjusted in steps of 10 seconds, up to a maximum of 9.5 minutes. E.g. If the display indicates 2.5, the time is 2 min. and 50 sec.	20
FO MOTOR POWER 01 minimum power 50 maximum power	50
So OPENING SPEED 01 minimum speed 10 maximum speed	08
Sc CLOSING SPEED 01 minimum speed 10 maximum speed	08
ro DECELERATION DURING OPENING Regulates the gate deceleration space. The deceleration space is set to 500 mm. The space can be increased in steps of 1% of the remaining stroke. 00 additional deceleration disabled 01-99 additional deceleration enabled	00
rc DECELERATION DURING CLOSING Regulates the gate deceleration space. The deceleration space is set to 500 mm. The space can be increased in steps of 1% of the remaining stroke. 00 additional deceleration disabled 01-99 additional deceleration enabled	00
Sr DECELERATION SPEED 01 LOW speed 10 HIGH speed	07
dI OPENING DIRECTION The opening direction is determined by looking at the gate from the door side of the column. -3 opens towards the right E- opens towards the left	
bU BUS 2easy DEVICE REGISTRATION See the relative section.	no
MI Dead-man MOTOR OPERATION mode + OPENS (displaying oP) as long as the button remains pressed. – CLOSES (displaying cL) as long as the button remains pressed.	– –

Basic function	Default
tL **SETUP** Acquire the limit switch positions. See the relative section.	no
SE **AUTOMATED SYSTEM STATUS** Y save and exit from programming mode no exit from programming mode without saving Press **F** to confirm. After exiting, the display indicates the status of the automation system: 00 Closed 01 Open 02 Stationary then opens 03 Stationary then closes 04 In pause 05 Opening 06 Closing 07 verifying BUS 2easy devices 08 Fail Safe in progress 09 Pre-flashing and then opens 10 Pre-flashing and then closes 11 Forced opening in progress 12 Forced closing in progress 13 Sleep	Y

9 Advanced programming

Advanced function	Default
bo **MAXIMUM TORQUE AT INITIAL THRUST** Time in which the motor operates at maximum power. Used for the initial thrust. Adjustable in steps of a tenth of a second. 0.1 minimum time 2.0 maximum time	2.0
PF **PRE-FLASHING** no disabled OC pre-flashing before every movement cL pre-flashing before closing oP pre-flashing before opening PA pre-flashing only at the end of the pause time	no
tP **PRE-FLASHING TIME (displayed only if PF is not disabled):** Regulates the pre-flashing time in steps of 1 second. 01 minimum pre-flashing 10 maximum pre-flashing	03

Advanced function	Default
Ph **CLOSING PHOTOCELLS** The tripping of the photocells during closing causes the gate to reverse (open). Y reverse only after the photocells have disengaged no immediate reverse	no
oP **OPENING PHOTOCELLS** Enable this function if you wish the opening photocells to stop the movement and reverse the gate during closing. Normally, with this function disabled, if the photocells are triggered during opening, movement resumes when they become disengaged. Y immediate reverse during closing No movement resumes when disengaged	no
iP **PARTIAL REVERSE** The type of reverse (complete or partial) can be selected when an obstacle is encountered or when a safety edge or the encoder is triggered. Y enable partial reverse. If an obstacle is detected or a safety edge is triggered, the leaf reverses for approximately 2 seconds and then stops. no disable partial reverse. If an obstacle is detected, or a safety edge is triggered, the leaf reverses completely and stops in the fully open or fully closed position.	no
PO **PARTIAL OPEN** The partial opening width of the leaf can be adjusted as a percentage of the total stroke of the gate. Adjustable from 01 to 99 % in 1% steps. 01 minimum partial opening 99 maximum partial opening	50
t **CYCLE TIME (time-out)** Set a value greater than the time it takes for the gate open or close completely. Adjustable from 01 to 59 sec. in 1 second steps. The display subsequently changes to minutes and tens of seconds (separated by a point) and the time is adjusted in 10 second steps, up to the maximum value of 9.5 minutes. E.g. If the display indicates 2.5, the pause time is 2 min. and 50 sec. When using a MASER/SLAVE configuration, the cycle time on the master unit must be set taking into account the movement times of both leaves.	9.5

Advanced function	Default
o1 OUT 1 Allows output OUT1 (NO open collector) to be set in one of the following functions: 00 always active 01 Fail safe 02 indicator lamp (off = closed; on = opening and when open/paused; flashing = closing) 03 courtesy light (remains on for the duration of the movement in addition to the time set in t1) 04 active error 05 gate open or paused 06 gate closed 07 gate moving 09 gate opening 10 gate closing 12 safety device active 13 traffic light function (active during opening and with gate open) 14 timed output that can be activated by the second radio channel OMNIDEC (see function t1) 15 output that can be activated by the second radio channel OMNIDEC (step-by-step function) 19 battery operation	02
t1 OUT 1 TIMING (displayed only with function o1 = 03 or o1 = 14) Can be used to adjust the timing of output OUT1 if a timed function was selected, from 1 to 59 minutes in 1 minute steps.	02
AS MAINTENANCE REQUEST - CYCLE COUNTER (linked to the next two functions) Allows you to enable a maintenance alert (scheduled maintenance) or the cycle counter. Y enables the alert when the programmed number of cycles had been reached (as defined in the next two functions). The alert consists of a pre-flashing of 8 sec (in addition to any pre-flashing time that may have already been set) before each movement. no enables the cycle counter, that will be displayed in the next two functions up to the maximum displayable 99,990. If the number of cycles carried out is greater than 99,990 the next two functions nc and nd will display 99 and 99 respectively.	no

Advanced function	Default
nc CYCLE PROGRAMMING (THOUSANDS) If AS = Y the display will indicate the number of thousands of cycles after which the maintenance alert starts (can be set from 0 to 99). If AS = no the display will indicate the number of thousands of cycles performed. The value displayed is updated as the cycles progress, interacting with the value in nd. If AS = no the cycle counter can be reset by: press + and - for 5 sec.	00
nd CYCLE PROGRAMMING (TENS) If AS = Y the display will indicate the number of tens of cycles performed, after which the maintenance alert starts (can be set from 0 to 99). If AS = no the display will indicate the number of tens of cycles performed. The value displayed is updated as the cycles progress, interacting with the value of nc. E.g. If the system has performed 11,218 cycles, nc = 11 and nd = 21 will be displayed.	00
SL SLEEP Allows the energy saving function to be enabled. After 10 minutes of inactivity the board goes into low power mode: the safety devices, BUS devices and all the relative LEDS are de-energised. The display indicates status 13 until the device is activated. Y enabled no not enabled	no
Hr FORCED COMMANDS Y the maintained OPEN B command causes the gate to open like FORCED OPENING. The maintained STOP command causes the gate to close like FORCED CLOSING. no not enabled ⚠ Activating forced commands: - disables operations such as OPEN B and STOP. - must be intentional and the gate visible. - it has priority over the operation of the SAFE OP and SAFE CL safety devices. - it cannot be used via radio devices and BUS 2easy.	no
St AUTOMATED SYSTEM STATUS See St Basic Function	Y

7.2 OPERATING LOGICS

In all the logics, the STOP command has priority over other commands and locks the automation system.

E - SEMI-AUTOMATIC

Logic E only requires the OPEN command:
- OPEN when the gate is closed causes it to open
- OPEN when the gate is open causes it to close
- OPEN during opening stops the gate
- OPEN during closing reopens the gate

The CLOSE command always causes it to close.

A - AUTOMATIC

Logic A only requires the OPEN command:
- OPEN when the gate is closed causes it to open. After the pause time, the gate closes automatically.
- OPEN when the gate is open in pause resets the pause time. The pause time is also reset when the closing photocells are triggered.
- OPEN during opening is ignored.
- OPEN during closing reopens the gate.

The CLOSE command always causes it to close.

b - SEMI-AUTOMATIC B

Logic b requires the use of the OPEN and CLOSE commands:
- OPEN when the gate is closed causes it to open
- CLOSE when the gate is open causes it to close
- CLOSE during opening causes it to close
- OPEN during closing reopens the gate

C - DEAD-MAN

Logic C requires the use of maintained action OPEN and CLOSE controls.

The control must be activated intentionally and the gate must be visible.

- OPEN maintained opens the gate
- CLOSE maintained closes the gate
- If the photocells are triggered, movement is stopped.

7.3 SET-UP

The set-up procedure enables the limit switch positions to be memorised.

The set-up procedure must detect a stroke of between 0.5 and 12 m.

The system needs to be set-up:
- When the automation system is first started
- When the board has been replaced
- Every time LO flashes on the display and the automation system is not working.
- When you need to modify the stroke of the leaf

Set-up procedure

The SET-UP MUST be performed:
- with the mains power switched on
- with the automation system in manual mode

1. Select parameter tL in Basic Programming, the display shows:
   - no when the set-up has to be carried out (the automation system is not working)
   - Y when the set-up has already been carried out. The set-up procedure can be carried out again in order to modify the stroke.
2. Unlock the automation system.
3. Keep the + and - buttons pressed for approximately 3 seconds.
   - When OP flashes, release the buttons.
4. Open the leaf manually.
5. Press and then release the + button to memorise the position.
   - CL flashes on the display.
6. Close the leaf manually.
7. Press and then release the + button to memorise the position.
8. The display indicates the automation system closed status (00). The procedure has been completed.
9. Restore automatic operation.

8. PUTTING INTO SERVICE

8.1 FINAL CHECKS

1. Make sure that the forces generated by the leaf are within the limits permitted by the current regulations. Use an impact force tester in accordance with standards EN 12453 and EN 12445. For non-EU countries, of there are no specific local regulations, the force must be less than 150 N.
2. Check that the maximum force required to move the leaf by hand is less than 220 N.

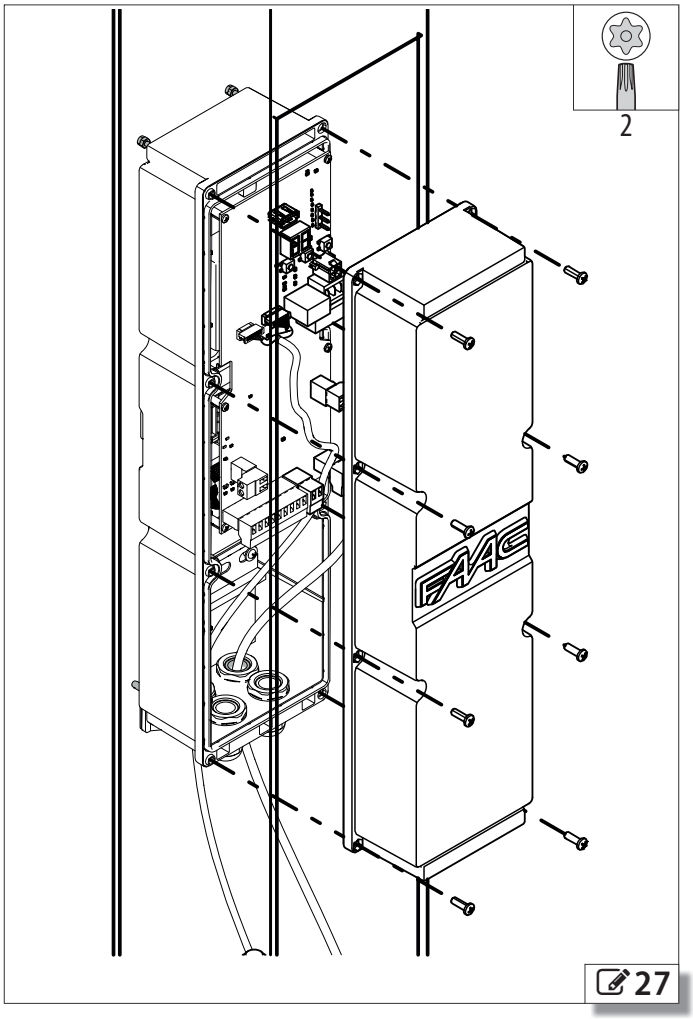
8.2 INSTALL THE BOARD ENCLOSURE COVER AND DOOR

Before installing the board enclosure cover and door you must have:
- completed the start-up procedure
- checked that the installed devices are working properly

1. Install the enclosure cover ✎ **27**
2. Install the door on the column

8.3 FINAL OPERATIONS

1. Highlight all areas with adequate warning signs in which there are still residual risks, even if all possible safety measures having been adopted.
2. Place a "DANGER, AUTOMATICALLY CONTROLLED" sign in a prominent position on the door.
3. Attach the CE marking to the gate.
4. Fill out the EC declaration of conformity and the system register.
5. Give the EC Declaration, the system register with the maintenance plan and the instructions for use of the automation to the system owner/operator.



9. ACCESSORIES

9.1 LAMPEGGIATORE 24 V⎓

The flashing light indicates that the automation is moving.

1. Install the flashing light in an easily visible position.
2. Connect the flashing light to terminal board J9 (15 W max) (✎ **28**).
3. Set-up pre-flashing, if required (PF and tP in Advanced programming).
4. Check that the device is working properly.

9.2 XBAT 24 EMERGENCY BATTERY

The XBAT 24 provides power to the automation system in the event of a mains power supply failure. The number of cycles that can be carried out by the battery depends on the condition of the automation system (state of charge of the battery, the time elapsed since the mains power failure, ambient temperature, structure of the gate etc.).

⚠ Recharge the battery before starting the system. The full charging cycle of the XBAT 24 battery is 72 hours.

1. Remove the board (✎ **29**-1).
2. Fasten the emergency battery fitting to the enclosure (✎ **29**-2).
3. Place the battery into the enclosure.
4. Turn the battery fitting so that it is vertical, in order to secure the battery onto the support.
5. Connect the connector of the XBAT 24 to connector J2 of the board.

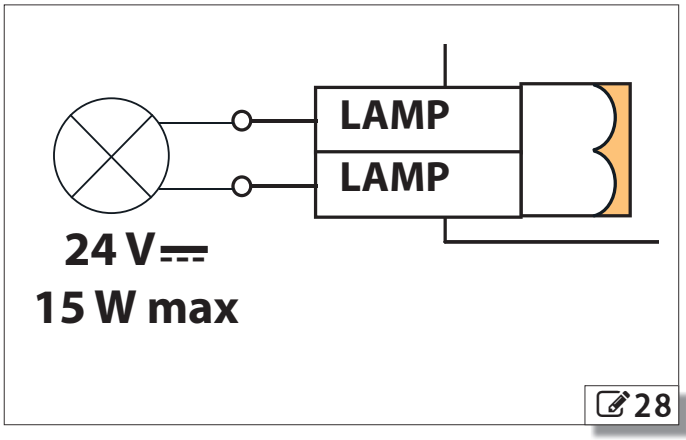
ⓘ Disconnect the emergency battery if the automation system is taken out of use.

9.3 XF RADIO MODULE

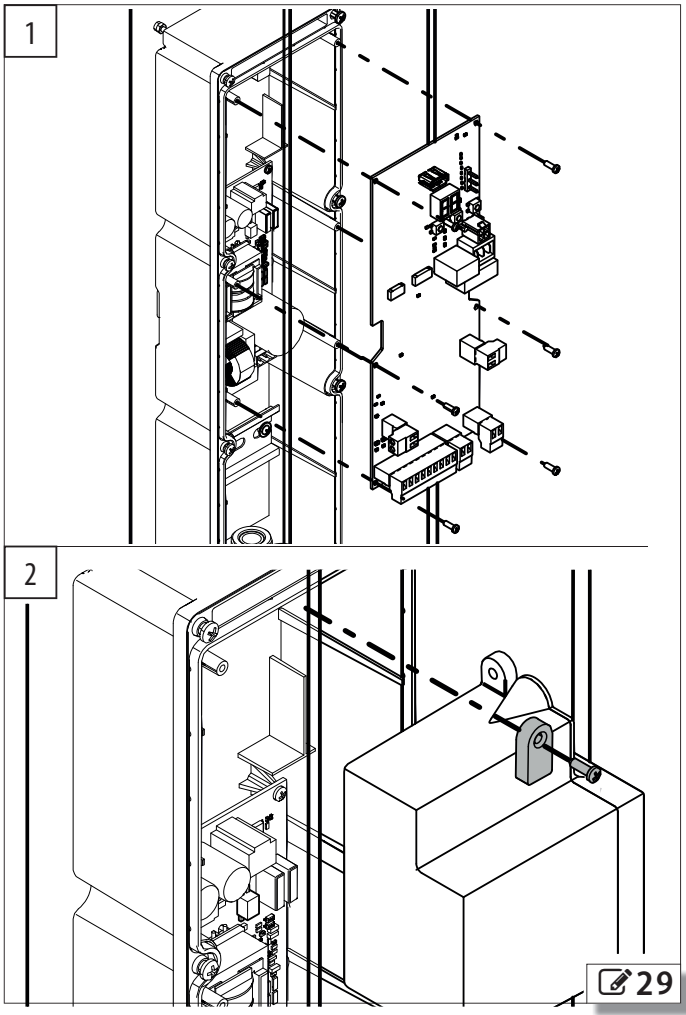
The E4000I is fitted with an OMNIDEC integrated two channel decoding system that can memorise, via the XF radio module, FAAC radio controls that use the following types of radio code: SLH/SLH LR, LC/RC, DS.

ⓘ The three types of radio codes can coexist simultaneously.
A maximum of 256 codes can be memorised.
The memorised codes act as OPEN A or OPEN B/CLOSE commands.
The radio controls and the XF radio module must have the same frequency.
When memorising the codes, keep the radio control approximately one meter from the XF radio module.

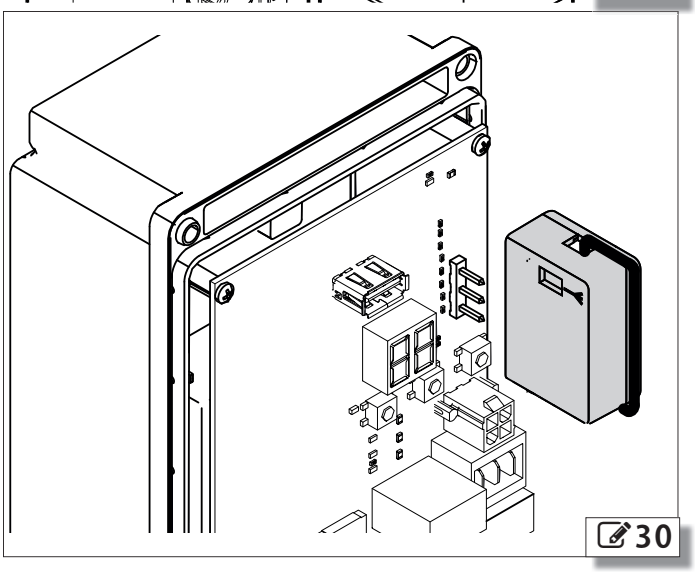
1. Insert the XF radio module into connector J3, being careful to insert it the right way round (✎ **30**).
2. Memorise the radio controls.



✎ **28**



✎ **29**


✎ **30**

ENGLISH

Translation of the original instructions

Ensure that there are no obstacles (persons or things) while the automation is moving.

SLH/SLH LR - MEMORISING THE FIRST RADIO CONTROL

1. Press and hold down the + button (OPEN A programming) or - (OPEN B/CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code learning phase has started.
2. Release the button. The E4000I now remains in the learning phase for approximately 20 seconds.
3. Press and hold down buttons P1 and P2 simultaneously on the SLH/SLH LR radio control (master version only). The LED on the radio control starts to flash.
4. Release both buttons; the LED on the radio control continues to flash.
5. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the radio control that you wish to memorise for a few seconds (the LED becomes steady). Release the button of the radio control.
6. Press the same button that was used in the previous step twice in succession to complete the memorisation process. If the procedure was carried out correctly, the C4000I will open the gate, if permitted by the operating mode that has been set.

SLH/SLH LR - MEMORISING OTHER RADIO CONTROLS

1. Press and hold down buttons P1 and P2 simultaneously on the SLH/SLH LR radio control that has already been memorised (master version only). The LED on the radio control starts to flash.
2. Release both buttons; the LED on the radio control continues to flash.
3. Press and hold down the button that has already been memorised (the LED becomes steady).
4. Place the remote control that has already been memorised close to the remote control to be memorised (keeping the button in the previous step pressed).
5. Press the button of the radio control to be memorised and make sure that its LED flashes twice, to indicate that the procedure was completed successfully, before turning off.
6. Release all buttons.
7. Press the button used in step 5 twice in succession to complete the memorisation process for the new radio control. If the procedure was carried out correctly, the C4000I will open the gate, if permitted by the operating mode that has been set.

LC/RC - MEMORISING THE FIRST RADIO CONTROL

1. Press and hold down the + button (OPEN A programming) or - (OPEN B/CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code learning phase has started.
2. Release the button; the E4000I now remains in the learning phase for approximately 20 seconds.
3. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the LC/RC radio control that you wish to memorise for a few seconds (the LED becomes steady). The corresponding LED (DL4 or DL5) on the board will light up with a steady light for 1 second and will then start to flash again for another 20 seconds, during which another radio control can be memorised.
4. To memorise additional radio controls at a later stage, repeat the procedure from the beginning or carry out the remote memorisation procedure.

LC/RC - REMOTE CODE MEMORISATION PROCEDURE

Additional radio controls can be memorised remotely, i.e. without having to use the board directly, by using a radio control that has already been memorised.

1. When close to the E4000I, press and hold down buttons P1 and P2 simultaneously on the radio control that has already been memorised (as OPEN A or OPEN B/CLOSE). The LED of the radio control and the LED, DL4 or DL5, of the board will start to flash for 5 seconds.
2. Release both buttons and then press the button that has already been memorised within 5 seconds. The E4000I now remains in the learning phase for approximately 20 seconds.
3. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the radio control that you wish to memorise. The corresponding LED (DL4 or DL5) on the board will turn on with a steady light for 2 seconds and will then start to flash again for another 20 seconds, during which another radio control can be memorised.
4. Wait for LED DL4 or DL5 on the board to turn off before using the new radio control.

DS - MEMORISING RADIO CONTROLS

1. Set the required ON/OFF combination of the 12 DIP switches on the DS radio control. Avoid setting all of them to ON or all of them to OFF.
2. Press and hold down the + button (OPEN A programming) or - (OPEN B/CLOSE programming). After pressing the button for about 5 seconds, the corresponding radio LED (DL4 or DL5) will start to flash to indicate that the radio code

learning phase has started.

3. Release the button; the E4000I now remains in the learning phase for approximately 20 seconds.
4. Make sure that the LED DL4 or DL5 on the board is still flashing and press the button of the DS radio control that you wish to memorise for a few seconds. The corresponding LED (DL4 or DL5) on the board will turn on with a steady light for 1 second and then turn off to indicate that the procedure was completed successfully.
5. To add different codes, repeat the procedure starting from point 1.
6. For additional radio controls, use the same ON/OFF combination as the 12 DIP switches on the radio control that has been memorised.

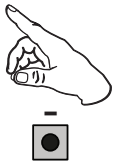
DELETING RADIO CONTROLS FROM MEMORY

⚠ This procedure cannot be reversed. It will delete ALL radio control codes that have been memorised as OPEN A and OPEN B/CLOSE. The deletion procedure is only active in the gate status display mode.

1. Press and hold down the **-** button.

- After pressing the button for about 5 seconds, LED DL5 starts to flash slowly. After another 5 seconds of slow flashing and holding the button down, the LEDs DL4 and DL5 will start to flash more quickly (deletion started).
- Once the quick flashing stops, the LEDs DL4 and DL5 will turn on with a steady light to confirm that all the radio codes (OPEN A and OPEN B/CLOSE) have been deleted from the board's memory.

2. Release the - button. The LEDs turn off, indicating that the codes were deleted correctly.



9.4 BUS 2EASY DEVICES

This board has a BUS 2easy circuit for connecting BUS 2easy devices (photocells, wireless safety edge system, control devices).

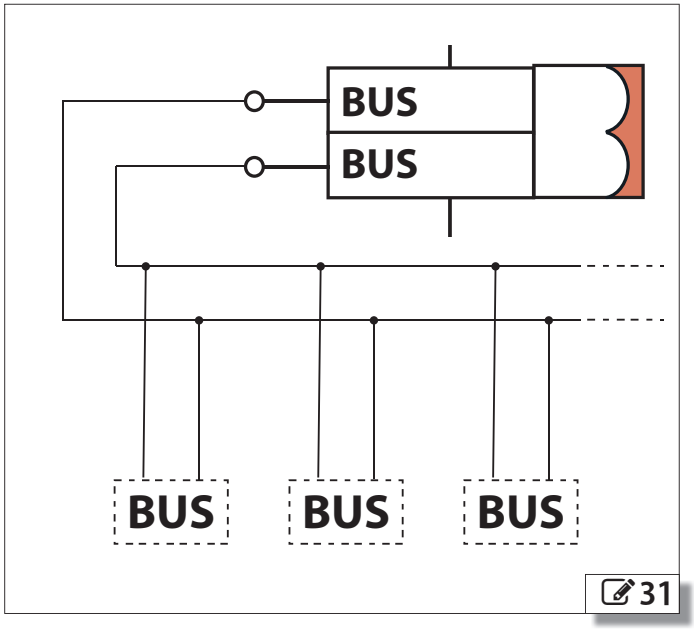
If no BUS 2easy accessories are used, leave the BUS 2easy connector free. Do not bridge.

CONNECTION

1. Route the cable of the BUS 2easy devices through one of the cable glands at the base of the enclosure. If necessary, use one of those on the board enclosure cover.
2. Connect any BUS 2easy devices (photocells, wireless safety edge system and controls) to terminal board J10.

The BUS line does not require a matching polarity connection.

The overall length of the BUS 2easy cables must not exceed 100 m.



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BUS 2EASY PHOTOCELLS

Type of use:

Closing photocells	Active during closing	When an obstacle is detected, they stop the gate and reopen it.
Opening photocells	Active during opening	When an obstacle is detected, they stop the gate and close it.
Opening/closing photocells	Active during both opening and closing	When an obstacle is detected, they stop the gate and reverse its direction of movement.
Photocells used as pulse generators	Always active	When an obstacle is detected, they send an OPEN A command.

Select the reverse type: immediate or reversing on disengagement (functions Ph and oP Advanced programming).

1. Assign an address to the BUS 2easy photocells.

10 Assigning an address to the photocells.

1 0 0 0	CL FSW
1 0 0 1	
1 0 1 0	
1 0 1 1	
1 1 0 0	
1 1 1 0	
0 0 0 0	OP FSW
0 0 0 1	
0 0 1 0	
0 0 1 1	
0 1 1 1	
0 1 0 0	OP/CL FSW
0 1 0 1	
1 1 1 1	OPEN

ON
– – – –
1 2 3 4

Assign an address to each pair of photocells by setting the four DIP switches (DS1) on the transmitter and the corresponding receiver.

The transmitter and receiver of a pair of photocells must have the same DIP switch settings.
There must never be two or more pairs of photocells with the same DIP switch settings. If there is more than one pair of photocells with the same address, a conflict error is generated.

2. Register the BUS 2easy photocells (bu Basic programming).
3. Check the status of LEDs DL3 and DL7 (▦).
4. Check that the photocells are operating correctly. When the gate is moving, interrupt the beam

with an obstacle and check the LEDs on the photocells, the status of the bus on the display and the automation system operate according to the type of photocell installed.

WIRELESS SAFETY EDGE SYSTEM

Type of use:

Closing safety edges (SAFE CL)	Active during closing	When an obstacle is detected, they stop the gate and reverse the direction of movement.
Opening safety edges (SAFE OP)	Active during opening	When an obstacle is detected, they stop the gate and reverse the direction of movement.

Select the type of reverse, complete or partial (function ⁞P Advanced programming).

The BUS 2easy provides power to and enables communication between the wireless safety edge system receiver and the electronic board.

The BUS line does not require a matching polarity connection.

1. Memorise the wireless safety edge system transmitters (see the device instructions).
2. Register the radio system (function bu Basic programming).

Do not assign BUS 2easy addresses used by the wireless safety edge system to other devices (e.g. photocells):
- 0110 (OFF ON ON OFF) Opening safety device
- 1101 (ON ON OFF ON) Closing safety device

If the addresses have already been assigned, the board will have a conflict error.

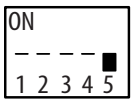
3. Check the status of LEDs DL3 and DL7 (▦)
4. Make sure that the wireless safety edge system is operating correctly. When the gate is moving, activate the safety edge and check that the LEDs on the radio system transmitter and receiver, the status of the bus on the display and the automated system operate according to the type of edge installed.

CONTROL DEVICES

1. Position the DIP switches to assign the commands.

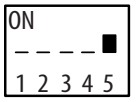
Stop NC also generates a stop when the device is disconnected. A command (e.g.: OPEN A_1) must be used on only one of the connected devices.

▦ **11** Addressing control devices



1 command
DIP switch 5 = 0 (OFF)

0 0 0 0	Open A_1	
0 0 0 1	Open A_2	
0 0 1 0	Open A_3	
0 0 1 1	Open A_4	
0 1 0 0	Open A_5	
0 1 0 1	Stop	
0 1 1 0	Stop NC_1	
0 1 1 1	Stop NC_2	
1 0 0 0	Close	
1 0 0 1	Open B_1	
1 0 1 0	Open B_2	
1 0 1 1	Open B_3	
1 1 0 0	Open B_4	
1 1 0 1	Open B_5	
1 1 1 0	/	
1 1 1 1	/	



2 commands
DIP switch 5 = 1 (ON)

0 0 0 0	Open A_1	Open B_1
0 0 0 1	Open A_1	Open B_2
0 0 1 0	Open A_1	Stop
0 0 1 1	Open A_1	Close
0 1 0 0	Open A_2	Open B_1
0 1 0 1	Open A_2	Open B_2
0 1 1 0	Open A_2	Stop
0 1 1 1	Open A_2	Close
1 0 0 0	Open A_3	Open B_3
1 0 0 1	Open A_3	Open B_4
1 0 1 0	Open A_3	StopNC_1
1 0 1 1	Open A_3	Close
1 1 0 0	Open A_4	Open B_3
1 1 0 1	Open A_4	Open B_4
1 1 1 0	Open A_4	StopNC_2
1 1 1 1	Open A_4	Close

2. Register the BUS 2easy control devices (bu Basic programming).
3. Check the status of LEDs DL3 and DL7 (▦).
4. Check that the devices are working properly. Use the controls to make the gate move. Check the LEDs on the devices, the status of the bus on the display and make sure that the automation system operates according to the type of device installed.

BUS 2EASY DEVICE REGISTRATION

Registration is required:

- When the automation system is first started or after the board has been replaced.
- Following any changes (addition, replacement or

removal) to the BUS 2easy devices.

Registration procedure:

1. Select parameter bu in Basic programming. When **F** is released, the display shows the status of the BUS 2easy devices (▦).
2. Press and hold down the **+** and **−** buttons simultaneously for at least 5 seconds until U appears (the display flashes during this time). Registration has been completed.
3. Release the **+** and **−** buttons. The display shows the status of the BUS 2easy devices
4. Check the status of the LEDs on the board:

LED DL7 (Red) - BUS 2easy devices

●	At least one device is engaged/active
○	No device is engaged/active

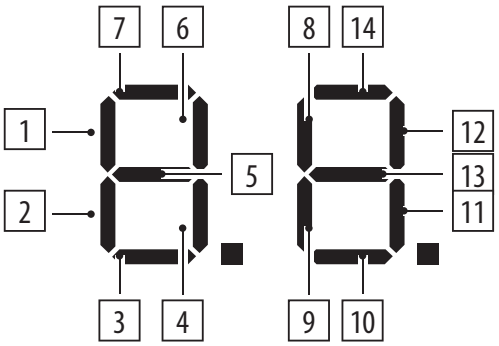
LED DL3 (Green) - BUS 2easy line

●	Line monitoring. LED always on (off with board in Sleep mode)
✱	Line short-circuited
✱	Device error: check the ERROR LED
○	Board in Sleep mode

Registered device verification procedure:

1. Select parameter bu in Basic programming. After registering one or more devices, bu displays segment 13 on.
2. Press the **+** button and keep it pressed; the segments relative to the registered devices will come on. Each segment of the display corresponds to a type of device:

1	Open A control device
2	Open B control device
3	Closing photocells
4	Photocells for Open impulse
5	Opening and closing photocells
6	Close control device
7	Opening photocells
8	Stop control device
9	Closing edge
10	Not used
11	Not used
12	Opening edge
13	BUS 2easy status
14	Not used



no	No device registered
cc	BUS 2easy line short-circuited
Er	BUS 2easy line error

10. MASTER-SLAVE

The Master-Slave configuration makes it possible to install two opposite opening leaves with synchronous movement.
When programming, one gearmotor must be defined as Master and the other as Slave. The Master gearmotor manages all the controls and movements.
The control devices must be connected to the Master gearmotor.
The functioning logic must only be programmed on the Master board. The anti-crushing function is active on each gearmotor and commands the reverse of both.

CONNECTION

1. Connect the gearmotors to the BUS 2easy polarised connection (32).
2. Connect the devices (see 27). The inputs for the command devices are disabled on the Slave board.

Connections	Master	Slave
Power supply	✔	✔
Motor	✔	✔
Encoder	✔	✔
Control devices	✔	✖
Outputs	✔	✔
Flashing light	✔	✔

3. The BUS 2easy devices can be connected to the Master or to the Slave board. The devices must be registered on the Master gearmotor.

SLAVE GEARMOTOR CONFIGURATION

1. Switch on the Slave gearmotor. The board turns on. The display reads in sequence:
   - firmware version (2 digits separated by a point)
   - LO flashing if set-up is required, or the automated system status
2. Access the Basic programming and set:
   - CE=SL for configuring the board as Slave.
   - dI according to the opening direction of the leaf
3. Check the status of the LEDs on the board:

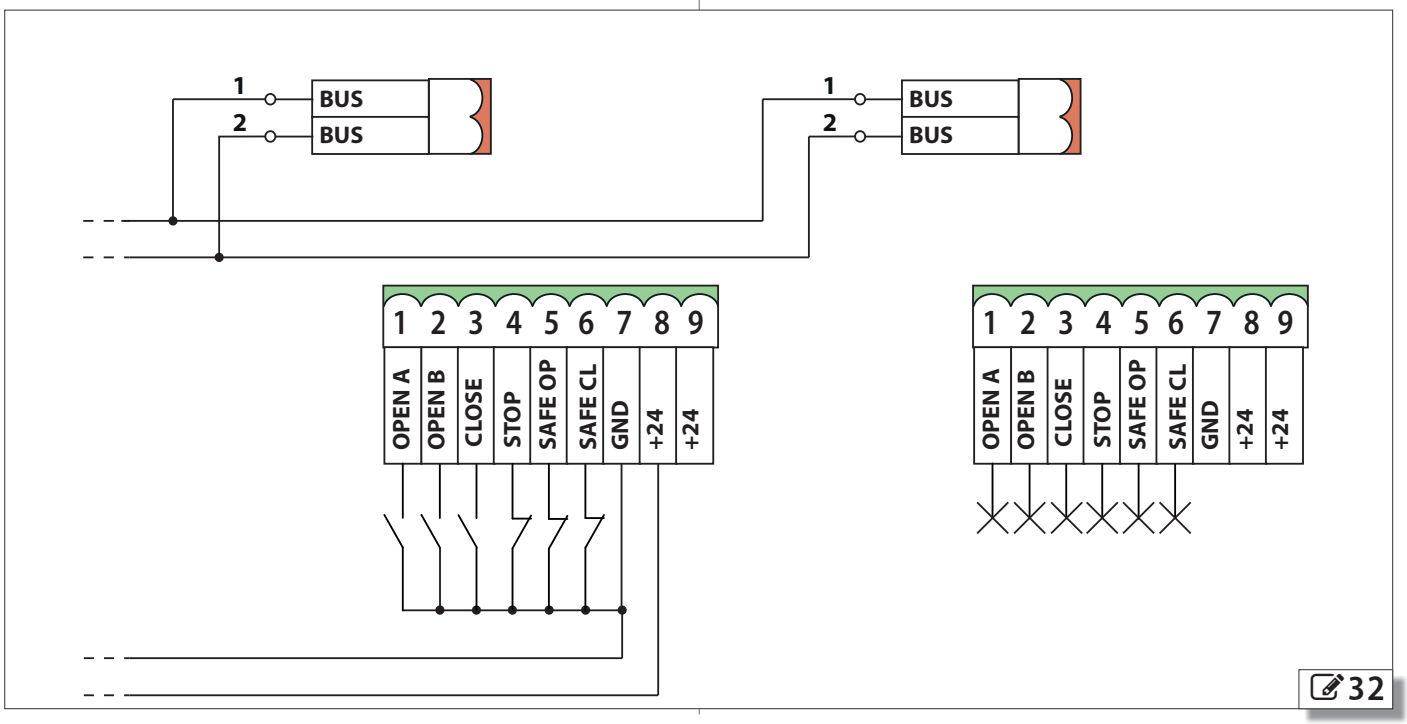
LED DL7 (Red)

✱	Master-Slave synchronisation absent or the line is short circuited.

LED DL3 (Green)

✱	Master-Slave synchronisation present.

4. Release the gearmotor
5. Set up the Slave gearmotor (see 33).
6. Start up (see 29).



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ENGLISH

Translation of the original instructions

11. UPLOAD/DOWNLOAD FROM/TO USB DEVICE

The USB port on the board can be used to:
- UPLOAD: the files on the USB device are copied to the board
- DOWNLOAD: the files on the board are copied to the USB device to backup the settings in case they are needed, or to duplicate the configuration for use on other systems.

A USB device should be used that has a maximum power consumption of 500 mA.
The device must be formatted with the FAT or FAT 32 file system. The board does not recognise the NTFS format.

UPLOAD

Files can be uploaded to the board only if:
- the files have been saved in the root directory of the USB device and are not compressed.
- the original filenames or the file extensions have NOT been modified. (▦ UPLOAD/DOWNLOAD from/to USB DEVICE Functions)

1. Turn off the power.
2. Insert the USB device in to the connector.
3. Turn the power back on. The board detects the device and the display indicates bo.
4. Press and release the **F** button in order to scroll through the available functions (▦ UPLOAD from USB Functions).
5. Press and hold down the **+** and **−** buttons simultaneously for at least 5 seconds in order to run the function displayed. While this is running, -- flashes on the display and the USB LED flashes on the board.
6. When finished, the display will show:
   y = if the upload was completed successfully
   no = if there were errors
7. Remove the USB device

DOWNLOAD

Turn off the power supply.
1. Insert the USB device in to the connector.
2. Turn the power back on. The board detects the device and the display indicates bo.
3. Press and release the **F** button in order to scroll through the available functions (▦ DOWNLOAD to USB Functions).
4. Press and hold down the **+** and **−** buttons simultaneously for at least 5 seconds in order to run the function displayed.
   - 01 appears.
5. Release the buttons and press the **+** or **−** button in order to select the method with which to save the file:
   - Ad saves the file without overwriting an existing file with the same name on the USB device. The file is saved with a sequential number. E.g.: name_**000**.extension; name_**001**.extension; name_**003**.extension...
   - Or saves the file by overwriting an existing file with the same name on the USB device. The file is saved as: name.extension
6. The mode displayed can be used run by pressing **F**
   - while it is running -- flashes on the display and the USB LED on the board flashes.
7. When finished, the display will show:
   y = if the download was completed successfully
   no = if there were errors
8. Remove the USB device

▦ **12** Upload from USB functions

US	Board FIRMWARE	E4000I**SW.cod**
Uc	Board PROGRAMMING	E4000I**.prg**
Ur	RADIO CODES	E4000I**.rad**

▦ **13** DOWNLOAD functions from USB

dc	Board PROGRAMMING	option 01: E4000I_xxx**.prg** * option 00: E4000I**.prg**
dr	RADIO CODES	option 01: E4000I_xxx**.rad** * option 00: E4000I**.rad**

* xxx = sequential numbering 000, 001, 002 etc. depending on how many configuration files are already on the USB device.

12. DIAGNOSTICS

12.1 LEDS CHECK

LED		STATUS	IDLE
DL1	Board power	● on ○ off	●
DL2	Microprocessor Power	● on ○ off	●
DL3	BUS 2easy "BUS MON" diagnostics.	See BUS 2easy device registration	●
DL4	RADIO1	● active ○ not active	○
DL5	RADIO2	● active ○ not active	○
DL6	Error/alarm "ERROR"	● active ○ not active	○
DL7	BUS 2easy device ACTIVE	●active ○ not active	○
DL8	USB	● active ○ not active	○
DL10	OPEN A	● active ○ not active	○
DL11	OPEN B	● active ○ not active	○
DL12	CLOSE	● active ○ not active	○
DL13	STOP	●	●
DL14	SAFE OP	● not active ○ active	●
DL15	SAFE CL	● not active ○ active	●
DL16	Accessories power	● on ○ off	●

12.2 AUTOMATION SYSTEM STATUS CHECK

If you are not in programming mode, the display of the E4000I, indicates the automated system status:

00	CLOSED
01	OPEN
02	Stationary then OPENS
03	Stationary then CLOSES
04	PAUSED
05	Opening
06	Closing
07	BUS 2easy device verification in progress
08	FAIL SAFE in progress
09	Pre-flashing and then OPENS
10	Pre-flashing and then CLOSES
13	Sleep

12.3 ENCODER OPERATION CHECK

1. Select parameter MI in Basic programming. The display shows - -.
2. Keep the **+** button pressed. The display indicates oP and the gate opens. The flashing point between the two letters indicates that the encoder is operating correctly.
3. Keep the **-** button pressed. The display indicates cL and the gate closes. The flashing point between the two letters indicates that the encoder is operating correctly.

12.4 ALARMS

The alarms provide information regarding the condition or current phase of the automation system and any malfunctions that do not prevent it from operating. Alarms are indicated by the ERROR LED (**DL6**) flashing on the board. To check for any active alarms, press the + and - buttons simultaneously while the display is indicating the automated system status. AI appears on the display followed by a numerical code:

Alarms		Intervention required
20	Obstacle during opening	Remove obstacle.
21	Obstacle during closing	Remove obstacle.
24	LAMP output short-circuited	Remove the cause of the short circuit.
27	Number of consecutive obstacles during opening exceeded.	Remove obstacle.
28	Number of consecutive obstacles during closing exceeded.	Remove obstacle.
30	XF radio code memory full	Delete any unused radio codes or use an additional radio module.
40	Request assistance	Contact the installer to carry out maintenance.
45	Battery operation	Board powered with emergency battery
56	Fail Safe in progress	Wait until the test ends and if necessary, check the operation of the safety devices.

12.5 ERRORS

Errors are malfunctions that prevent the automation system from working. They are indicated by the steady ERROR LED (**DL6**) on the board.
If there is an error, remove the cause of it in order to resume normal operation.
To check any active errors, press the + and - buttons simultaneously while the display shows the automated system status. Er appears on the display followed by a numerical code:

Errors		Intervention required
01	Board failure	Replace the board
05	Set-up incorrect	Repeat the set-up procedure
08	BUS 2easy Error	Make sure that there are not two pairs of devices with the same address.
09	BUS 2easy output short-circuited	Check the connections of the BUS 2easy devices that are connected and registered.
12	Call BUS 2easy	Check the operation of the BUS devices. Repeat the acquisition procedure if necessary
13	FAIL SAFE	Check that the safety devices (edges) are working correctly.
14	Configuration error	Check the board configuration (opening direction..). Repeat the set-up procedure if necessary
15	Movement time-out	Check the value of parameter t in advanced programming
17	Motor encoder failure	Check the connections, the encoder power LED or replace the motor encoder

12.6 CHECK FIRMWARE VERSION

When the display of the E4000I is switched on, it shows the following in succession:

- bo (Bootloader)
- firmware version (2 digits separated by a point)
- automation system status

13. MAINTENANCE

RISKS

PERSONAL PROTECTIVE EQUIPMENT

Always shut off the power supply before performing any maintenance operations. If the disconnect switch is not in view, apply a warning sign stating "WARNING - Maintenance in Progress". Restore the power supply only after finishing any maintenance work and restoring the area to normal.

Maintenance must be performed by the installer or a maintenance technician.
Follow all safety recommendations and instructions given in this manual.
Mark off the work site and prohibit access/transit. Do not leave the work site unattended.
The work area must be kept tidy and clear upon completing maintenance.
Before starting work, wait for any hot components to cool down.
Do not make any modifications to the original components.
FAAC S.p.A. shall bear no liability for damage or injury due to components that have been modified or otherwise tampered with.

The warranty shall be forfeited in the event of tampering with components.
Only use original FAAC spare parts.

13.1 ROUTINE MAINTENANCE

The Scheduled Maintenance Table ⊞ **14** lists the operations which must be performed on a regular basis in order to keep the automation system working reliably and safely; these are given purely as a guideline and should not be considered exhaustive. The installer/machine manufacturer is responsible for drawing up the maintenance plan for the automation, supplementing this list or modifying the maintenance intervals according to the machine characteristics.

⊞ **14** Scheduled maintenance

Operations	Frequency
Structures	
Check the plinth, the structures and components of the building/fence adjacent to the automation, ensuring there is no damage, cracking or subsidence.	12
Check the gate's area of movement, ensuring it is free from obstacles, objects or deposits which would reduce the effectiveness of the safety measures.	12
Check that there are no gaps in the perimeter fence and that any protective grilles in the area where it overlaps with the mobile leaf are intact.	12
Ensure that there are no sharp protrusions which could represent a perforation or hooking hazard.	12
Gate	
Check the gate, ensuring it is intact and free of deformations, rust etc.	12
Check that there are no slots/openings on the leaf and that any protective grilles are intact.	12
Check that screws and bolts are correctly tightened.	12
Check that the sliding guides are straight and not excessively worn.	12
Check that the bearings are in good condition and there is no friction.	12
For cantilever systems, check the solidity of the guide system for the suspended leaf and the counterweight, where present.	12
Check that the mechanical stops are fastened solidly and in good condition. This check must be performed on both sides, simulating any knocks which could occur during use.	12
Check the wheels, ensuring that they are intact, correctly fastened and free of deformation, wear and rust.	12
Check the rack, ensuring it is straight, spaced correctly from the pinion along its entire length, and correctly fastened to the gate.	12
Check the containing guide and the anti-tipping column, ensuring they are correctly fastened and intact.	12
Perform a general clean of the area of movement of the gate.	12
Gearmotor	
Check that it is intact and correctly fastened.	12
Check that the pinion is correctly keyed to the shaft and tightened correctly.	12
Check that it is irreversible.	12
Check that there is no loss of grease.	12
Check the condition of the gearmotor cables, the cable glands and junction boxes.	12
Electronic equipment	
Check that the power supply and connecting cables and the cable glands are intact.	12

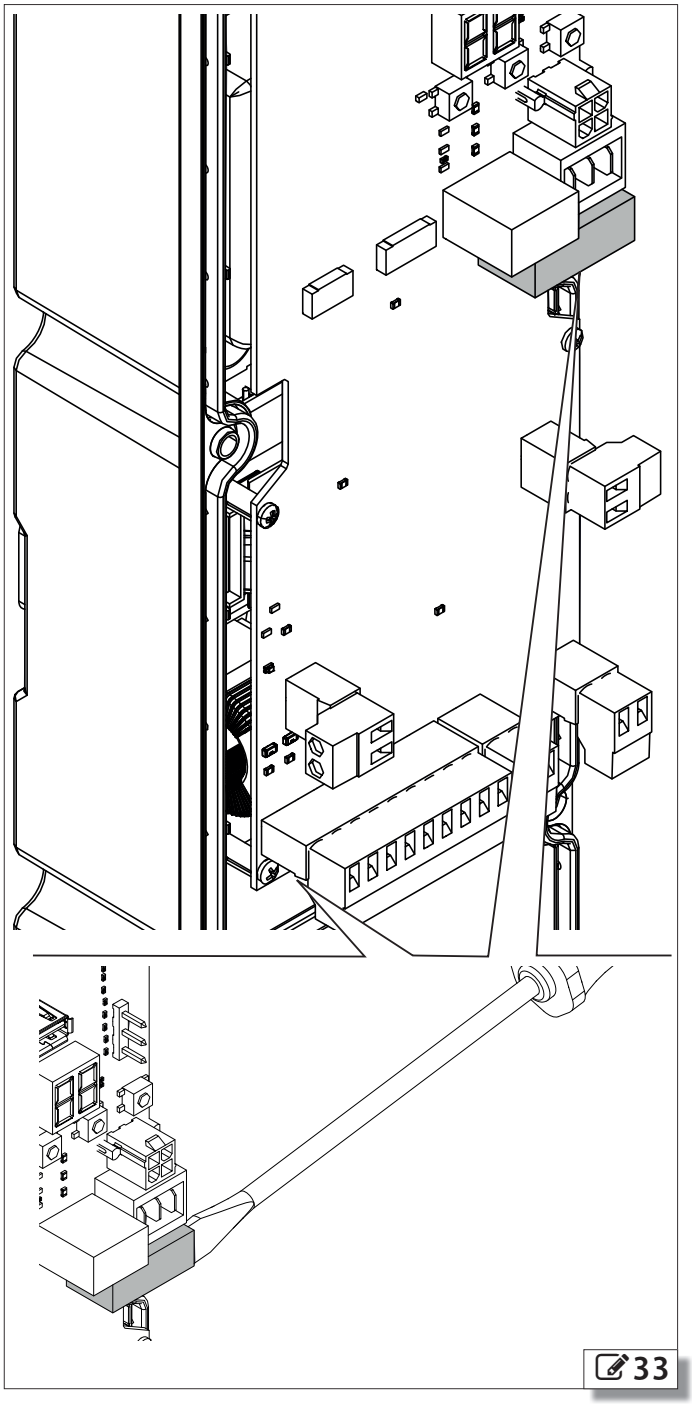
Check that the connectors and wiring are intact.	
Check that there are no signs of overheating, burning etc. of electronic components.	12
Check that the earth connections are intact.	12
Check the operation of the circuit breaker and differential switch.	12
Check that the limit switch is intact and that it operates correctly.	12
Control devices	
Check that the installed devices and radio controls are in good condition and that they operate correctly.	12
Sensitive edges	
Check condition, fastening and correct operation.	6
Deformable edges	
Check that they are intact and correctly fastened.	12
Photocells	
Check condition, fastening and correct operation.	6
Check the posts, ensuring that they are intact, correctly fastened and free of deformation etc.	6
Flashing light	
Check condition, fastening and correct operation.	12
Electric locks	
Check condition, fastening and correct operation.	12
Clean the seats.	12
Access control	
Check that the gate opens only when an authorised user is recognised.	12
Complete automation system	
Check that the automation operates correctly, following the set logic, when using the various control devices.	12
Check that the gate moves correctly - smooth, regular and without abnormal noise.	12
Check that both the opening and closing speed are correct and that the stop positions and slow-downs provided for are respected.	12
Check that the manual release operates correctly: when the release mechanism is activated, it must only be possible to move the gate manually.	6
Check that the maximum force required to move the leaf by hand is less than 225 N in residential areas.	6
Check that the safety edges operate correctly when faced with an obstacle.	6
Check that the encoder (where present) functions correctly when an obstacle is detected.	6
Check that each pair of photocells is working correctly.	6
Check that there is no optical/light interference between the pairs of photocells.	6
Check the force limitation curve (standards EN 12453 and EN 12445).	6
Check that all necessary signage and warnings are present, intact and legible: residual risks, exclusive use etc.	12
Check that the gate's CE marking and the DANGER, AUTOMATIC MOVEMENT warning sign is present, intact and legible.	12

13.2 FUSE REPLACEMENT

1. Remove the fuse cover by gently prising it off with a screwdriver ✎ **33**.
2. Remove the fuse.
3. Assemble the new fuse.
4. Refit the fuse cover.

⚠ Only use the types of fuse indicated:

F1	F 6.3A (quick)
F2	F 2.5A (quick)



✎ **33**

14. INSTRUCTIONS FOR USE

It is the responsibility of the machine installer/manufacturer to draft the user instructions of the automation in accordance with the Machinery Directive, including all the required information and instructions based on the characteristics of the automation.
The guidelines below, which are purely indicative and in no way exhaustive, help the installer draft the user instructions.

The installer must provide the owner/operator of the automation with the EC Declaration, the system Logbook with the maintenance schedule and the user instructions of the automation.
The installer must inform the owner/operator of any residual risks and the intended use and ways in which the machine should not be used.
The owner is responsible for operating the automation and must:
- comply with all User instructions provided by the installer/maintenance technician and the Safety recommendations
- keep the user instructions
- have the maintenance schedule implemented
- keep the system Logbook, which must be completed by the maintenance technician at the end of all servicing

14.1 SAFETY RECOMMENDATIONS

Installations using FAAC C4000I series gearmotors are designed for use with vehicular traffic.
The user must be in good physical and mental health and be aware of and responsible for the dangers which use of the product can lead to.

- Do not remain in or walk/drive through the area of operation of the automation while it is moving.
- Do not use the automation when the area of operation is not free of persons, animals or objects.
- Do not allow children to approach or play in the area of operation of the automation.
- Do not try to prevent the movement of the automation.
- Do not climb on, hold onto or let yourself be pulled by the leaf. Do not climb onto or sit on the gearmotor.
- Do not allow the devices to be used by anyone who is not specifically authorised and trained to do so.
- Do not allow the devices to be controlled by children or persons with mental and physical deficiencies unless they are supervised by an adult who is responsible for their safety.
- Do not use the automation with the fixed and/or mobile guards removed or altered.
- Do not use the automation in the presence of faults which could compromise safety.
- Do not expose the automation system to corrosive chemicals or atmospheric agents; do not expose the gearmotor to water jets of any type or size.
- Do not expose the automation to flammable gases or fumes.
- Do not perform any work on the components of the automation.

14.2 PRODUCT WARNINGS

Risk of fingers and hands being trapped between the rack, pinion and casing (§ 3.8-✎ **2**).

14.3 EMERGENCY USE

In emergencies or if there is a fault, turn off the power supply to the automation and disconnect the buffer batteries if there are any. If the leaf can be moved safely by hand, use the MANUAL OPERATION mode; otherwise place the automation out of service until it has been reset/repaired.
In the case of a breakdown, the automation must be reset/repaired exclusively by the installer/maintenance technician.

Environmental phenomena, even occasional, such as ice, snow and strong wind may hinder correct operation of the automation and affect component integrity and may become a potential source of danger.

14.4 MANUAL OPERATION

Before performing the release operation, shut off the power supply to the automation.
During manual operation, gently guide the leaf the whole way. Do not push it and let it slide freely.
Do not leave the gate with the release engaged: after moving it manually, restore automatic operation.

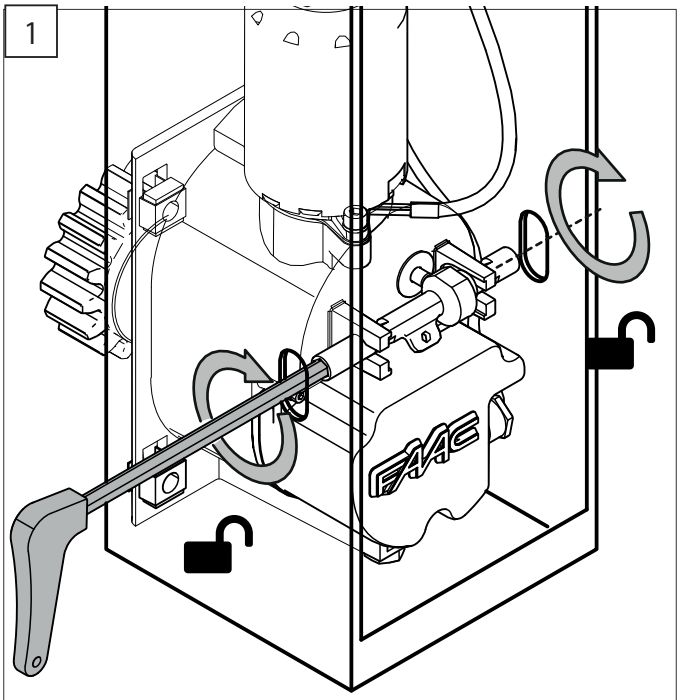
RELEASE PROCEDURE

1. Insert the release device and rotate it a quarter turn, as shown in figure ✎ **34**-1
2. Move the barrier manually.

RESTORING AUTOMATIC OPERATION

1. Insert the release device and rotate it a quarter turn as shown in figure ✎ **34**-2
2. Make sure that the gate cannot be moved manually and then remove the release device.

1



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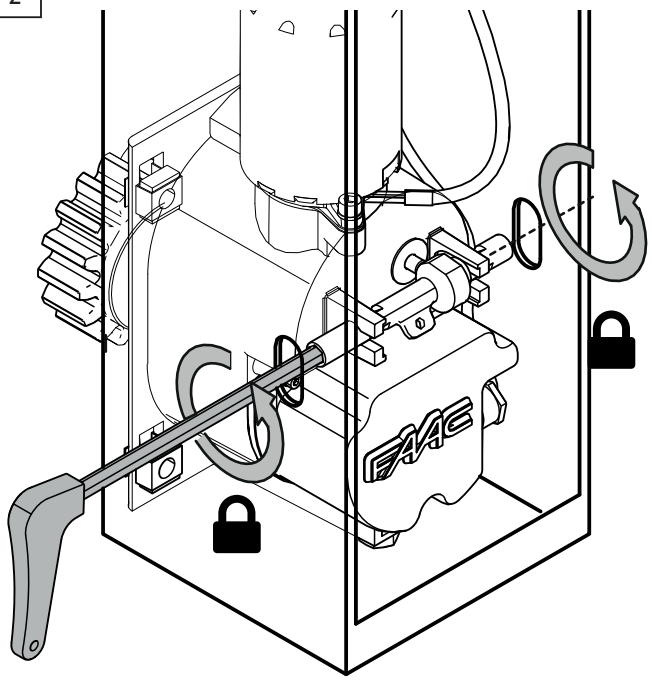

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