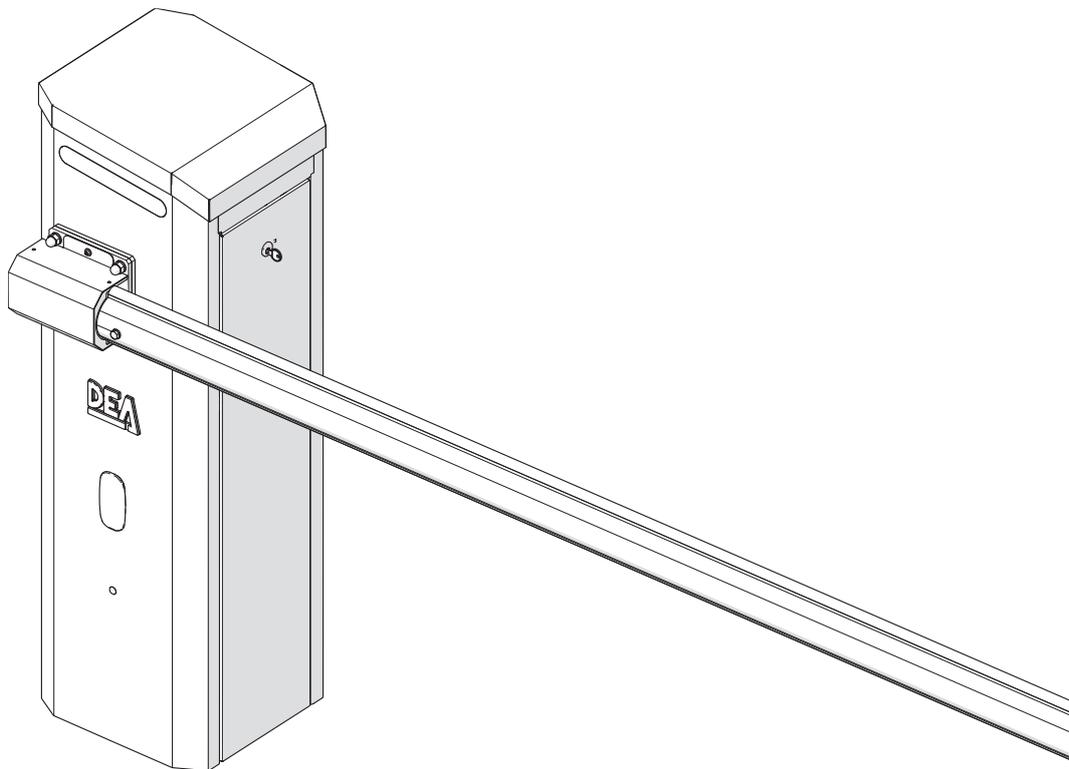


TRAFIK

Electromechanical boom barrier

DEA[®]
move as you like



EN INSTRUCTIONS FOR INSTALLATION, USE AND MAINTENANCE

Before installing and using the device, carefully read this manual and store it together with the product.

Declaration of Conformity

If the Declaration of Conformity is lost, a new copy can be obtained by contacting **DEA System S.p.A.** and notifying the product's item code (1) and batch number (2). Both data items appear on the label affixed to the product.

DEA made in Italy					
		3520000646000002000002001			
DETAILS		TECNICAL DETAILS			
Type	TRAFIK	Power Supply	230 V	Cycle/h	625 BOOM4
Model	TRAFIK	Frequency	50/60 Hz		167 BOOM6
Code	646000	Power	0.25 kW	Weight	70,0 kg
Rev	01	Protection	IP 55	-20 °C +50 °C	
Serial	20/00002 / 1	Max Thrust	--- N		
Month	5	Max Torque	--- Nm		
Year	2020	Speed	---		
		90° Op. Time	--- s		
DEA SYSTEM SpA - Cap 36013 Piovone Rocchette - www.deasystem.com - deasystem@deasystem.com					

1

2

Conformity

DEA System S.p.A. declares that **TRAFIK** conforms to the essential requirements of the following directives:

- Directive 2006/42/EC (Machinery Directive)
- Directive 2014/53/EU (RED - Radio Equipment Directive)
- Directive 2011/65/EU (RoHS)



Warranty

Sales and warranty terms and conditions

The sales and warranty terms and conditions are available on the website "<http://www.deasystem.com>".

Limitation of warranty

DEA System S.p.A. hereby declines all liability with immediate voiding of the warranty concerning:

- Damages or defects caused by transport or due to loading and unloading operations
- Incorrect installation caused by failure to observe the instructions provided
- Use for purposes other than those indicated in this manual
- Use by non-qualified or unauthorised personnel

Introduction

The **INSTALLATION**, **USER** and **MAINTENANCE** manual is intended for installers, users and maintenance operators

Symbols used throughout the manual and their meaning



WARNING

For indicating very important information.



BEWARE: DANGER

For indicating operations that, if not carried out properly, can cause personal injury or damages to the device.



FORBIDDEN

For indicating operations that **MUST NOT** be carried out.



Risk of crushing of the hands and/or feet



Risk of electrocution

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1 General

1.1 Warnings and safety rules



WARNINGS

- This manual is the property of **DEA System S.p.A.**. It is forbidden to reproduce or transfer to third parties the contents of this manual. All rights reserved. This manual is an integral part of the product; make sure that it always accompanies the device, also when the latter is sold/transferred to a new owner, so that it can be consulted by the user or by personnel authorised to perform maintenance and repairs.
- Read this manual carefully before using the device to guarantee safe operation.
- The device must be used for the purposes intended by **DEA System S.p.A.**, which is not responsible for any harm caused to people and animals or damage to objects arising from errors in installation, adjustment and maintenance and improper use of the device.
- The device can be used by children aged 8 years and older, persons with reduced physical, mental or sensory abilities, or in general by any person lacking experience or nonetheless the necessary experience, provided that they are supervised or have received proper training on the safe use of the device and the comprehension of the attendant dangers.
- Do not allow children to play with the device, the fixed controls or the system's remote controls.
- Using the product in abnormal conditions not foreseen by the manufacturer may lead to dangerous situations; observe the conditions laid out in these instructions.
- Disconnect the power supply before performing any intervention on the system. Disconnect any back-up batteries, if present.
- **DEA System** recalls that all devices and materials making up the complete assembly of the barrier must be chosen, arranged and installed in accordance with the following European directives: 2006/42/EC (Machinery Directive), 2014/53/EU (RED Directive). For all non-EU countries, besides the applicable regulations, for a sufficient level of safety we recommend the observance also of the provisions contained in the above-mentioned directives.
- In no case must the device be used in the presence of explosive atmospheres or in potentially aggressive environments that can damage parts of the product. Verify that the temperatures in the installation site are suitable and comply with those declared on the product's label.
- When operating with the "hold-to-run" control, make sure that nobody lies in the device's movement zone.
- Verify that upstream of the system's power supply network an omnipolar switch or thermal-magnetic switch that ensures the complete disconnection in category III overvoltage conditions.
- Check that upstream of the power supply network a residual-current circuit breaker is installed with 0.03 A threshold.
- The outputs and not of the safety extra-low voltage (SELV) type, therefore there must not be any accessible parts.
- To ensure adequate electrical safety, keep the 230 V power supply cable well apart (minimum 4 mm in the air or 1 mm through insulation) from the safety extra-low voltage cables (power supply for the motors, control units, electric lock, antenna, auxiliary power supplies), by fastening them with adequate cable clamps near the terminal blocks.
- If the power cord is damaged, it must be replaced by the manufacturer or by the latter's technical assistance service, or nonetheless by a person possessing similar qualifications, so as to prevent any risk.
- Any installation, maintenance, cleaning or repair operations involving the entire system must be carried out exclusively by qualified personnel; always operate with the power supply disconnected and rigorously observe all the regulations in force in the country of installation pertaining to electrical systems. Cleaning and maintenance operations to be carried out by the user must not be performed by unsupervised children..
- The use of spare parts not indicated by **DEA System** and/or their incorrect re-assembly can cause dangerous situations for people, animals and objects; moreover, they can cause the product to malfunction; always use the parts indicated by **DEA System** and follow the relevant assembly instructions.
- **DEA System** declines all liability as to the safety and efficient operation of the device if components of other manufacturers are used.
- Adjusting the closing force can lead to potentially dangerous situations. The closing force, therefore, must only be increased by qualified personnel. Following the adjustment, compliance with the limit values stated in the regulations must be checked using an instrument for measuring the impact force. The obstacle detection sensitivity can be adapted gradually to the gate (consult the programming instructions). After manually adjusting the force each time, it is necessary to verify the operation of the anti-crushing device. The manual adjustment of the force can only be carried out by qualified personnel by performing measurement tests in accordance with the EN 12445 standard. Every force adjustment operation must be documented in the machine's booklet.
- The conformity of the internal obstacle detection device to the requirements of the EN12453 standard is only guaranteed if the device is used in conjunction with motors equipped with an encoder.
- Any external safety devices used to comply with the impact force limits must conform to the EN12978 standard.

1.2 Prohibitions

FORBIDDEN

- It is forbidden to make changes and/or attempt to repair the product. Any repairs must be made exclusively by authorised personnel.
- **All uses not expressly stated in this manual must be regarded as improper and are forbidden! The manufacturer shall not be liable for damages resulting from improper use of the product that differs from that stated in this manual.**
- It is forbidden to disperse the packaging material into the environment and leave it within reach of children, as it may be a source of danger. It must therefore be disposed of according to the laws in force.
- It is forbidden to dispose of the device together with household waste.

2 Product description

TRAFIK is an electromechanical automatic barrier designed for controlling openings up to 6 metres wide. Suitable for heavy-duty use. **Any other use must be regarded as improper and is strictly forbidden!** The manufacturer shall not be liable for damages resulting from improper use of the product that differs from that stated in this manual.

TRAFIK is compatible with the **DEAinstaller** and **DEAuser** apps.
The obstacle detection function is carried out through the encoder.
The electromechanical limit switches are included in the barrier.
Programmable via the DE@NET NET24NGR control unit

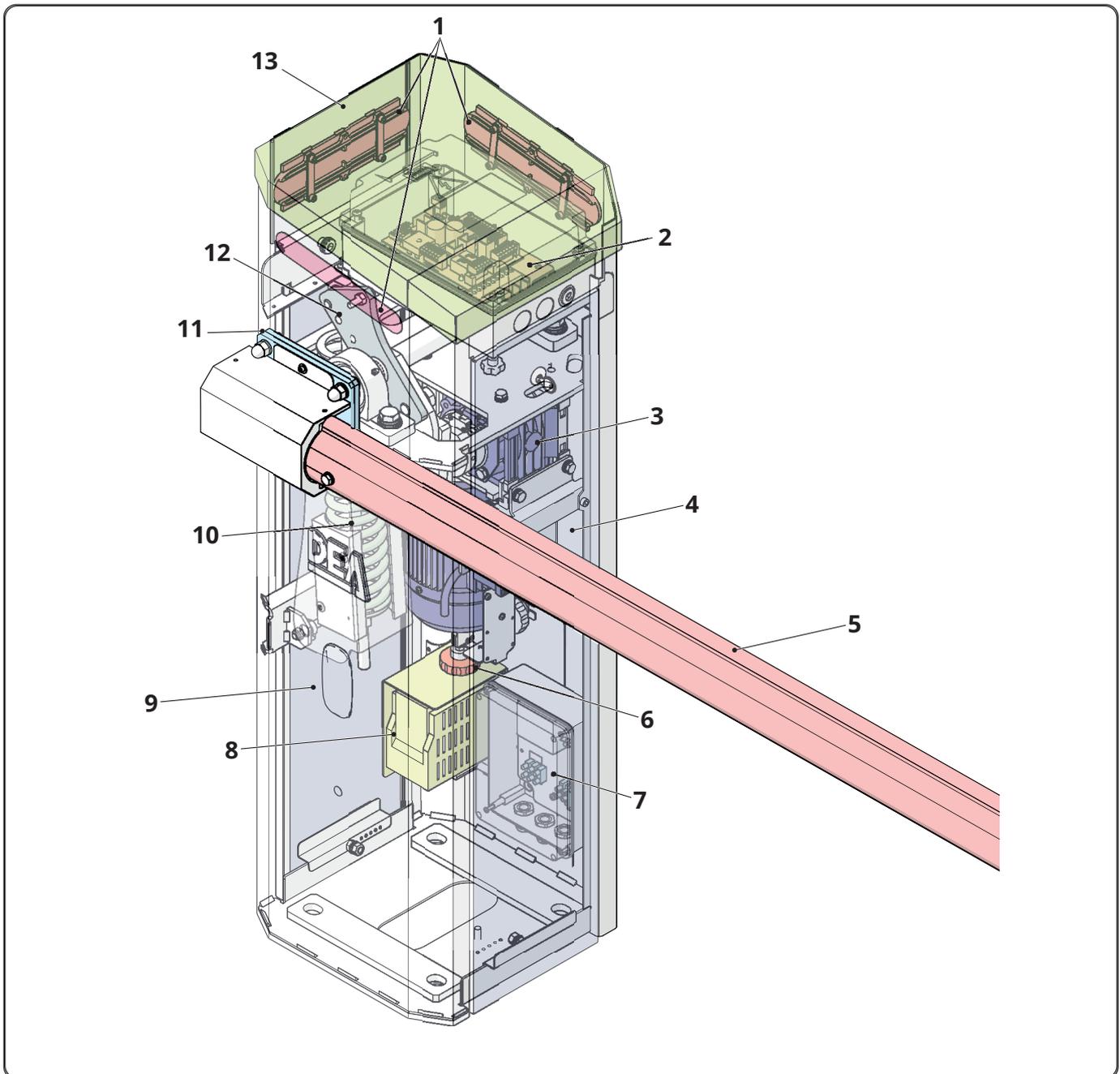
TRAFIK is always supplied in the two-way version, in other words, it is possible to combine the omega-shaped fastening bracket and the “right” boom (which means that when opening the front panel of the box, the boom lies on the left and opens clockwise) or “left” boom. **The boom, omega fastening plate, LED strip, foundation plate and balancing spring are not included.**

TRAFIK is supplied with RAL 7016 anthracite coating. The **trafik orange kit** (cod. 649350) and the **trafik light grey kit** (cod. 649351) are also available, consisting of two doors and a cover.
To mount the kit refer to the documentation enclosed with the kit.

2.1 Technical data

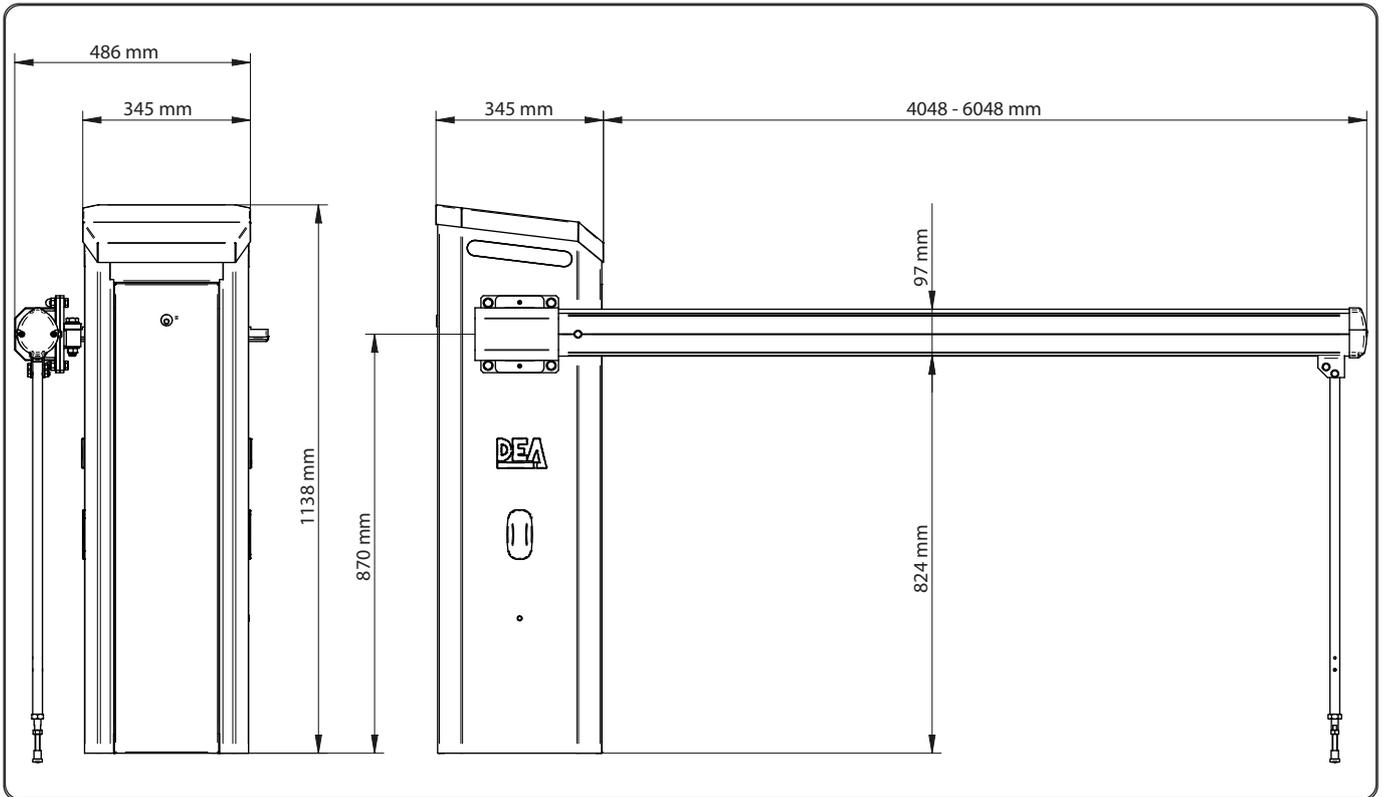
Characteristic	Description	
Boom length	4m (code BOOM/4)	6m (code BOOM/6)
Motor supply voltage (V)	230 V ~ ±10% (50/60 Hz)	
Motor type	230V ~ 910RPM 0.25 kW	
Maximum power consumption	230 W	
Control unit	NET24NGR	
Type of boom usable	(see paragraph) springs table	
Type of spring usable		
No. of manoeuvres in 24 hours	15.000 (code BOOM/4)	4.000 (code BOOM/6)
MCBF (Mean Cycles Between Failures)	3,500,000 Op	
Limit operating temperature (°C)	-20 ÷ +50	
90° opening time (s)	1,5 ÷ 4	4 ÷ 7
Weight of the product with packaging (kg)	70	
Sound pressure (dBA)	<70	
Protection rating	IP55	

2.2 Identification of components

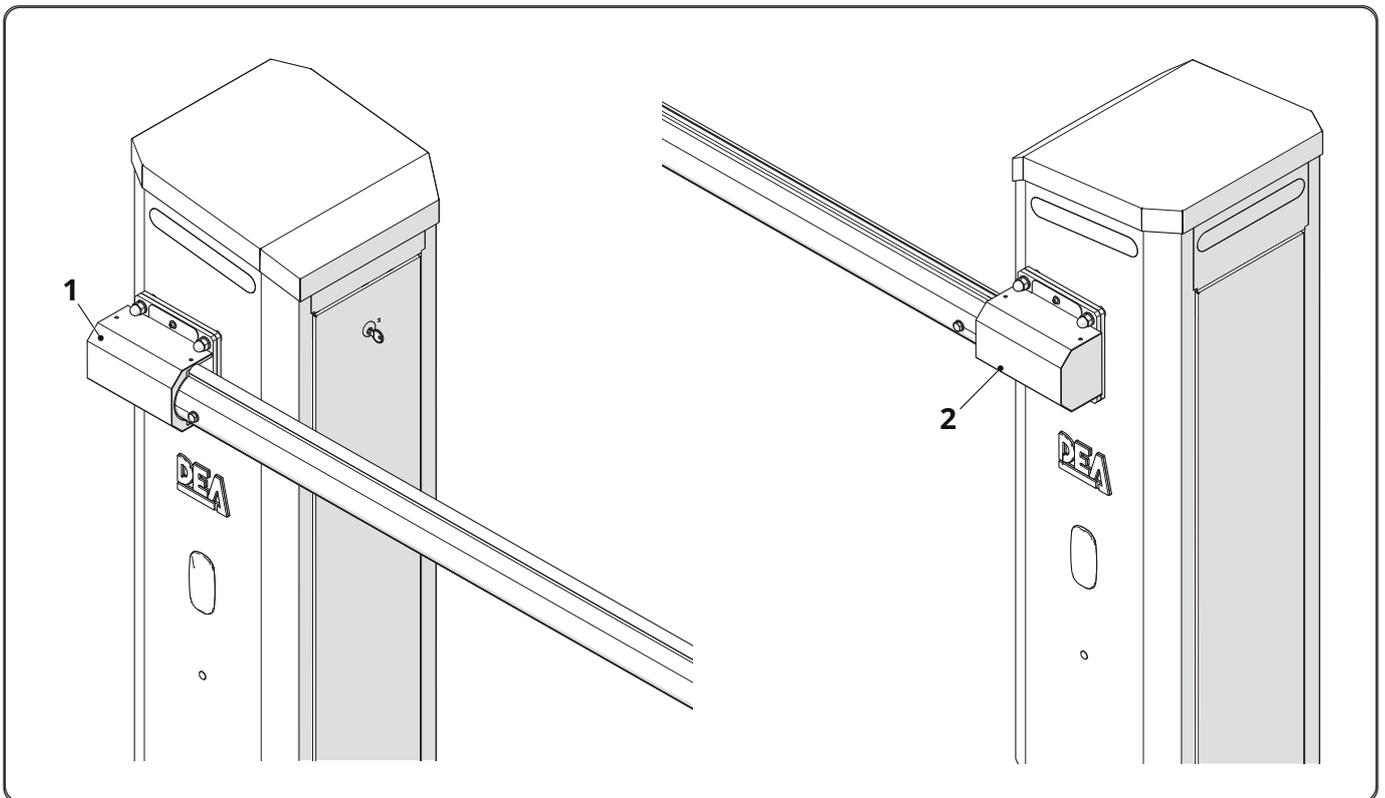


- 1 Flashing light unit (covers only, the LED strip is available as an accessory - TRAFIK/LED 649290)
- 2 Control unit
- 3 Gearmotor
- 4 Front panel with key-operated lock
- 5 Boom (BOOM/4, BOOM/6)
- 6 Manual movement knob
- 7 Power supply
- 8 Inverter unit
- 9 Rear panel
- 10 Spring
- 11 Omega-shaped fastening bracket
- 12 Lever assembly
- 13 Cover

2.3 Dimensions



Mounting example with right (1) and left (2) boom



3 Transport and handling

3.1 Inspection on receipt

It is important to thoroughly inspect the items as soon as they are received. Every item received must be inspected.

More specifically, check the following elements:

- crate no. and number of items;
- weight and dimensions;
- conformity between the information on the transport document and the goods received (description, serial numbers, etc.);
- condition and integrity of the packaging;



WARNING

If any type of damage is found, notify the manufacturer immediately.

3.2 Storage

If **TRAFIK** is stored away, it must be left in the warehouse, in ventilated rooms and protected against dust. The delivered elements must be kept in their packaging until their definitive installation.

In case of prolonged inactivity, the machine must be stored with the precautions relative to the storage place and duration:

- store the machine in a closed place;
- protect the machine against impacts and stress;
- protect the machine against humidity and excessive temperature fluctuations;
- prevent the machine from coming into contact with corrosive substances.

3.3 Lifting and handling

The machine's packaging changes in relation to the accessories ordered, therefore the customer will receive the machine packaged in reinforced cardboard boxes on pallets holding maximum four pieces each.

Each single packaged part and the machine body must be transported as close as possible to the final installation site. The site must be inspected in advance to verify the clearances and whether there is enough space, including that indispensable for performing installation manoeuvres.

The various constituent materials of the packaging must be disposed of in conformity to the applicable laws by contacting the relevant bodies and/or companies specialised in the disposal of polluting or recyclable waste.

Check that the corrugated pipes for the power supply and system cables (not supplied) have been arranged in the foundation.



WARNING

It is mandatory to anchor **TRAFIK** to the ground before use.

4 Installation

4.1 Anchoring the structure to the cement foundation



WARNINGS

– We recommend installing **TRAFIK** on a cement foundation measuring at least 500 mm on each side and 400 mm high



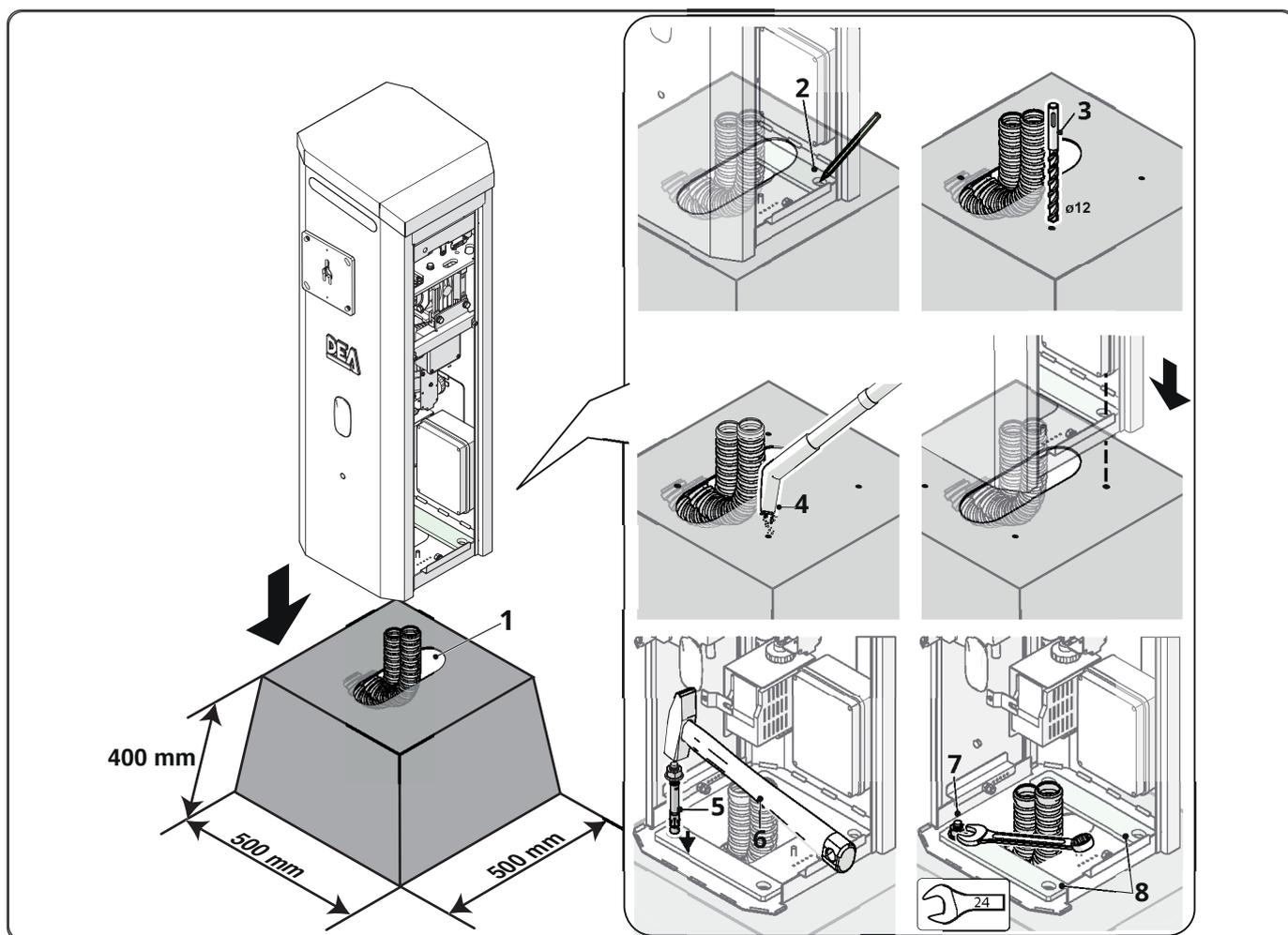
WARNINGS

– Before proceeding with the installation, make sure that the corrugated pipes (1) for the power supply and system cables have been arranged in the foundation. If a UPS will be used, verify that the connecting pipes have been arranged.

In the normal and allowed usage conditions, **TRAFIK** is designed and built for being used anchored to the ground so that it does not run the risk of toppling, falling or moving.

To anchor the device, proceed as explained below:

- Place **TRAFIK** in the foundation and make sure that it is centred
- Mark the references for the holes in the foundation (2)
- Remove **TRAFIK** and drill the foundation with a 12 mm (3) bit to a depth of at least 150 mm
- Clean the holes using an adequate vacuum cleaner (4)
- Position **TRAFIK** while making sure that the holes match up
- Insert the anchor bolts (not supplied) (5) to the ground
- Use a hammer (6) to insert the bolt all the way down into the ground
- Tighten the bolt by turning the relevant nut (7)



WARNINGS

– **TRAFIK** is supplied with two fixing brackets (8). Use them to ensure optimal fastening.

4.2 Anchoring by means of the foundation base



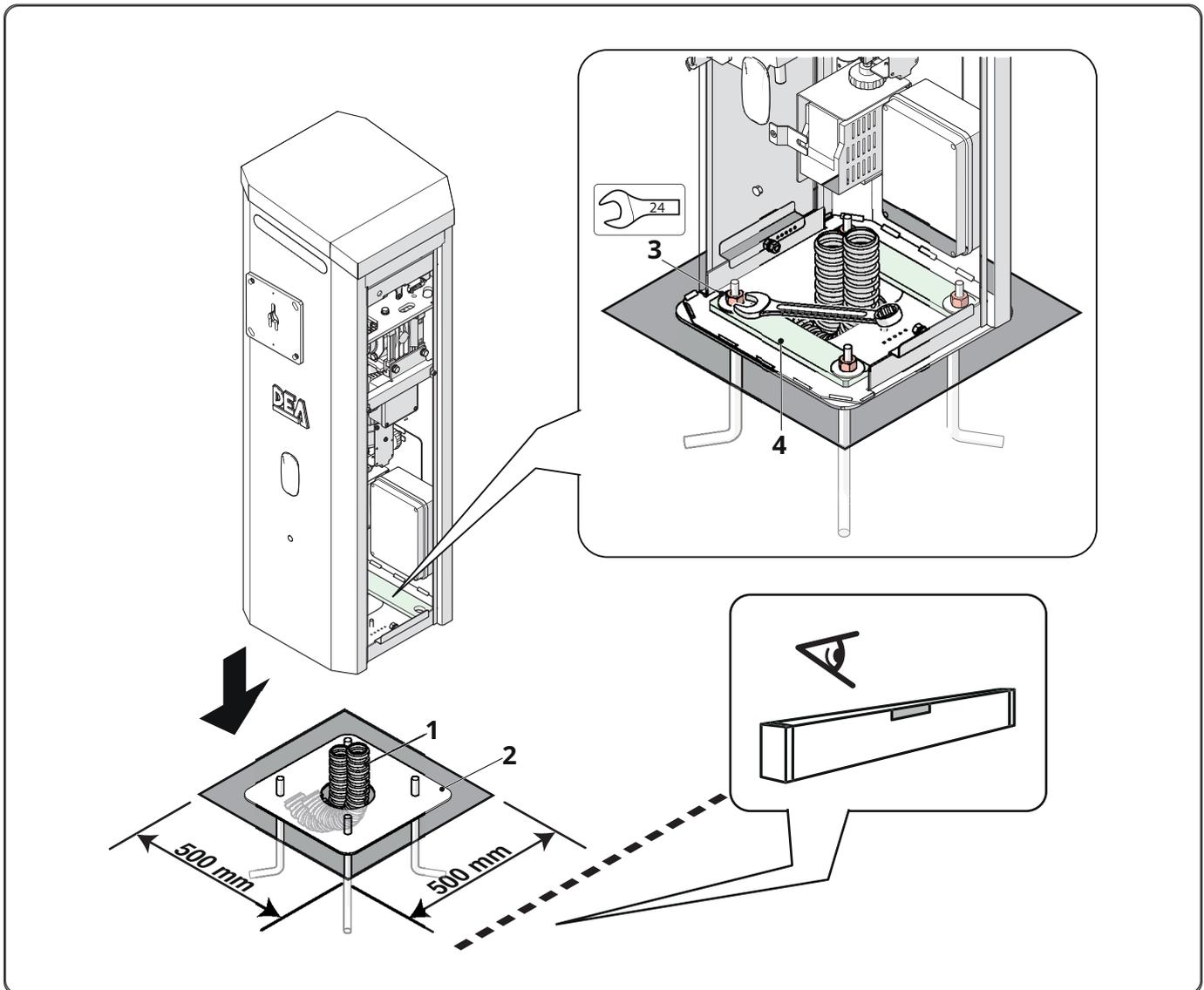
WARNINGS

- Before proceeding with the installation, make sure that the corrugated pipes (1) for the power supply and system cables have been arranged. If a UPS will be used, verify that the connecting pipes have been arranged.

In the normal and allowed usage conditions, **TRAFIK** is designed and built for being used anchored to the ground so that it does not run the risk of toppling, falling or moving.

To anchor the device by means of the foundation base (item 649300, not supplied), proceed as explained below:

- Excavate a hole in the ground measuring at least 500 x 500 mm
- Place the foundation base (2) at roughly 20 mm from the paving
- Check, using a centesimal bubble level or optical level, that the base is perfectly level
- Cement the hole and wait until it has hardened completely
- Fasten **TRAFIK** to the foundation base by tightening the nuts M12 (3)



WARNINGS

- **TRAFIK** is supplied with two fixing brackets (4). Use them to ensure optimal fastening.

4.3 Mounting the omega-shaped boom bracket

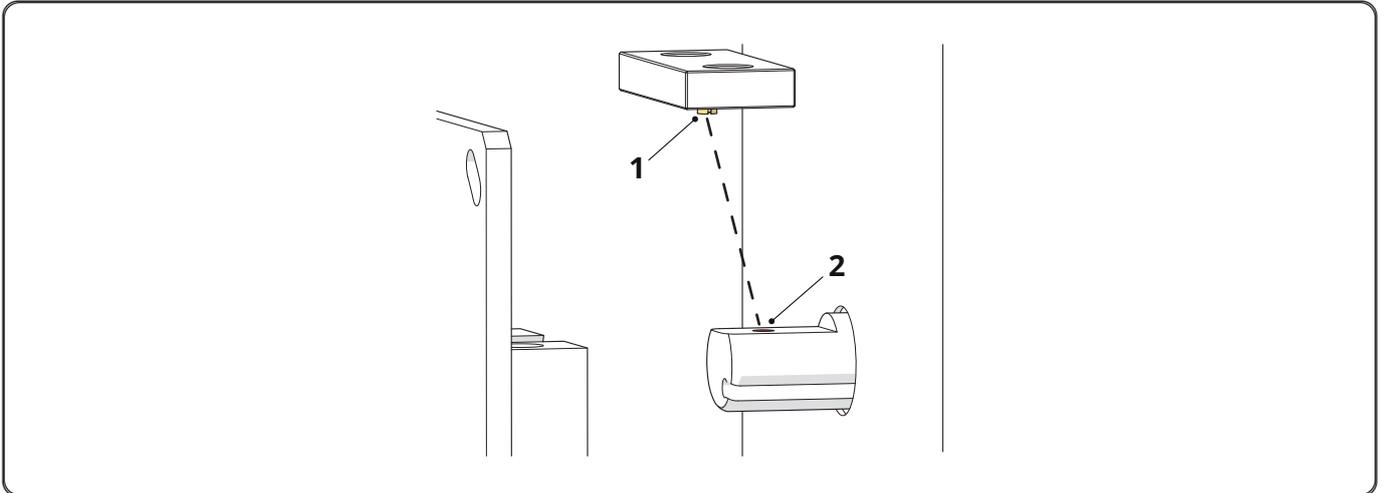


WARNINGS

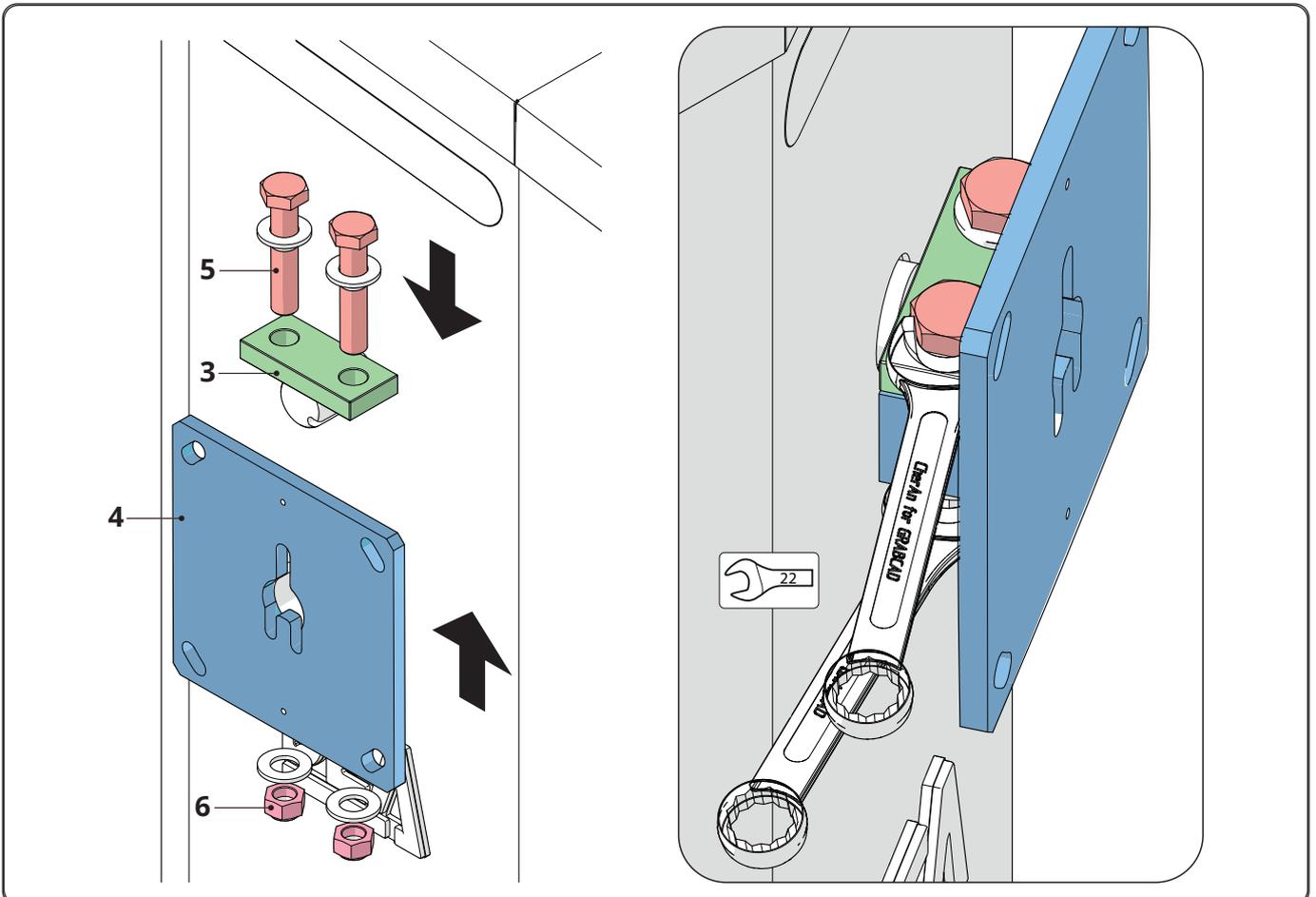
- The bracket can be mounted on either side of **TRAFIK**. Depending on which side is chosen, the barrier will be right or left (refer to the "" paragraph)

To mount the support, proceed as explained below:

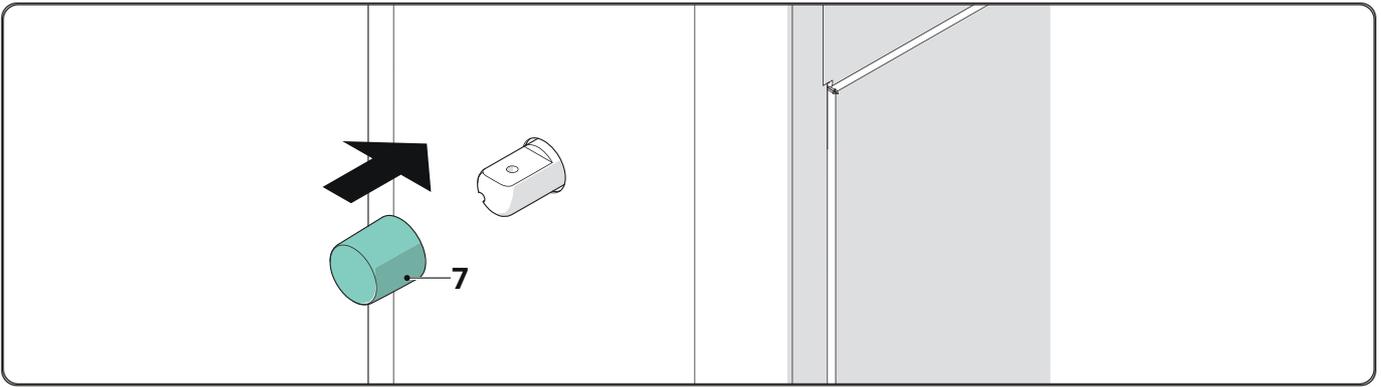
- Position the fixing bracket by centring the pin (1) into the hole (2)



- Fasten the bracket (3) to the fixing bracket of the omega-shaped boom bracket (4) using the relevant screws (5) and nuts (6)
- Tighten the screws using a spanner



- Position the protective cap (7) on the opposite side



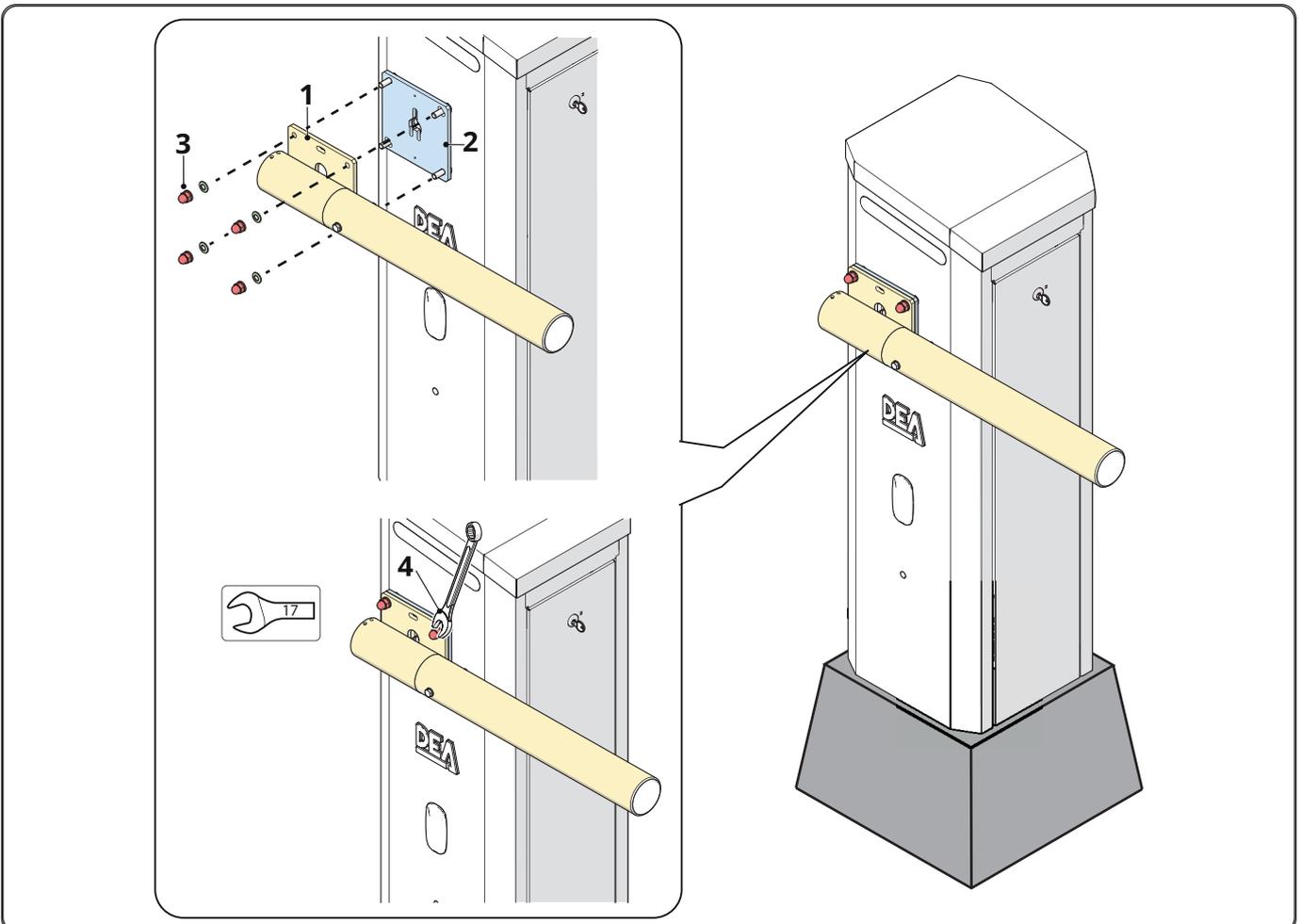
- Fasten the omega-shaped bracket and the boom (refer to the “Fastening the omega-shaped bracket and the boom” paragraph)

4.4 Fastening the omega-shaped bracket and the boom

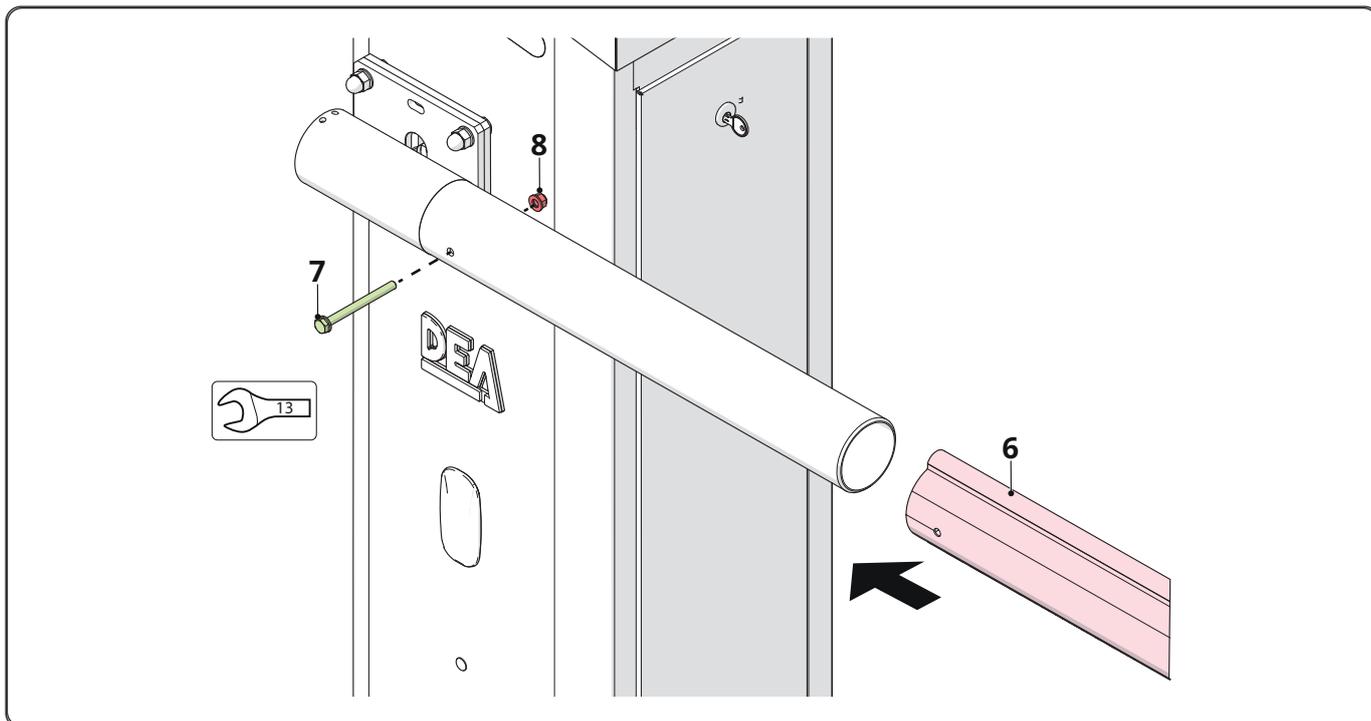
 **WARNINGS**
 - **TRAFIK** was designed and built for being used with booms ranging from 4 to 6 metres in length. Do not use booms longer than 6 metres

To anchor the device, proceed as explained below:

- Place the omega-shaped bracket (1) into the support (2)
- Lock it in place using the bolts (3) provided
- Tighten the bolts using a spanner (4)



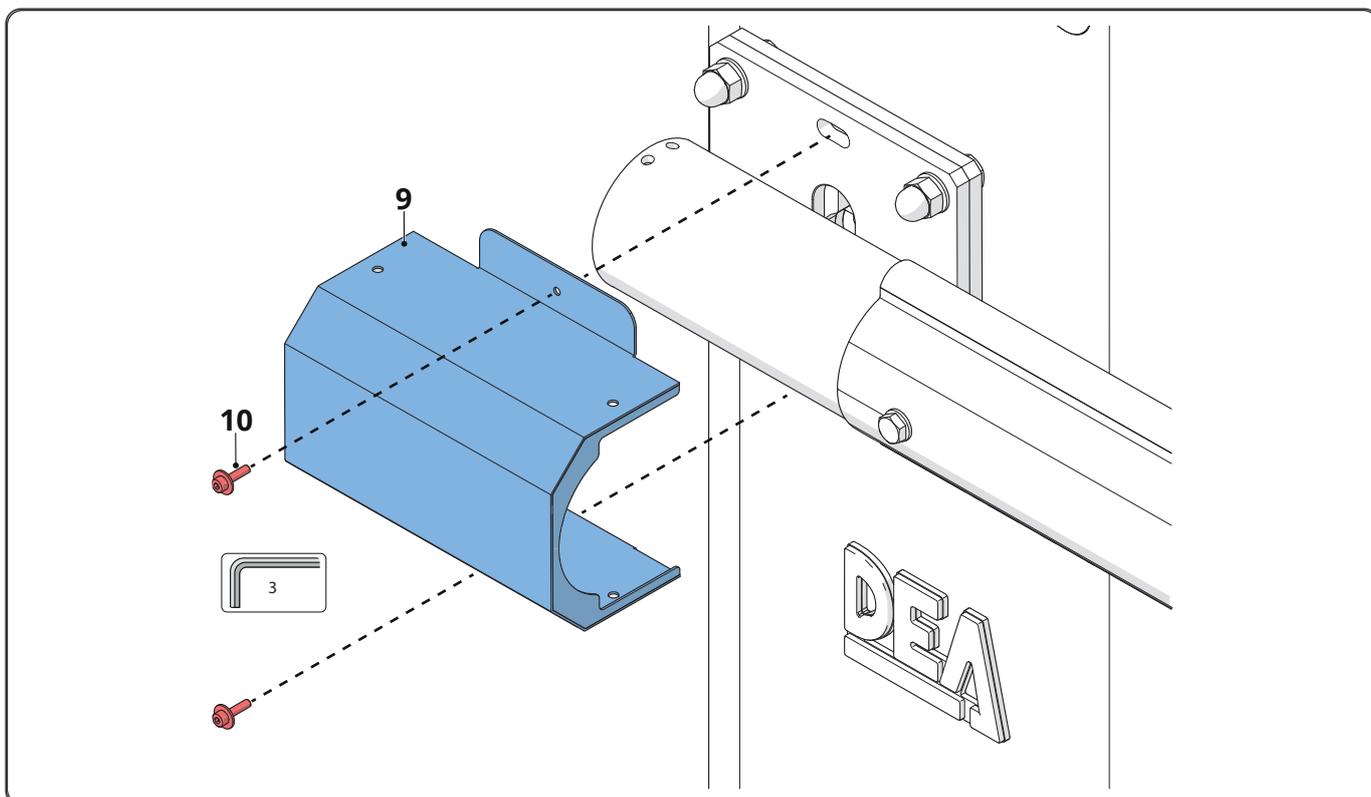
- Insert the boom (6) all the way down until it touches the omega-shaped bracket
- Insert the fixing screw (7) into the hole
- Tighten the screw and bolt (8) using a spanner



WARNING

The booms are supplied only in the four- and six-metre lengths. During the installation phase, it is possible to join and/or shorten booms, if necessary, by means of the **BOOM-LINK** item

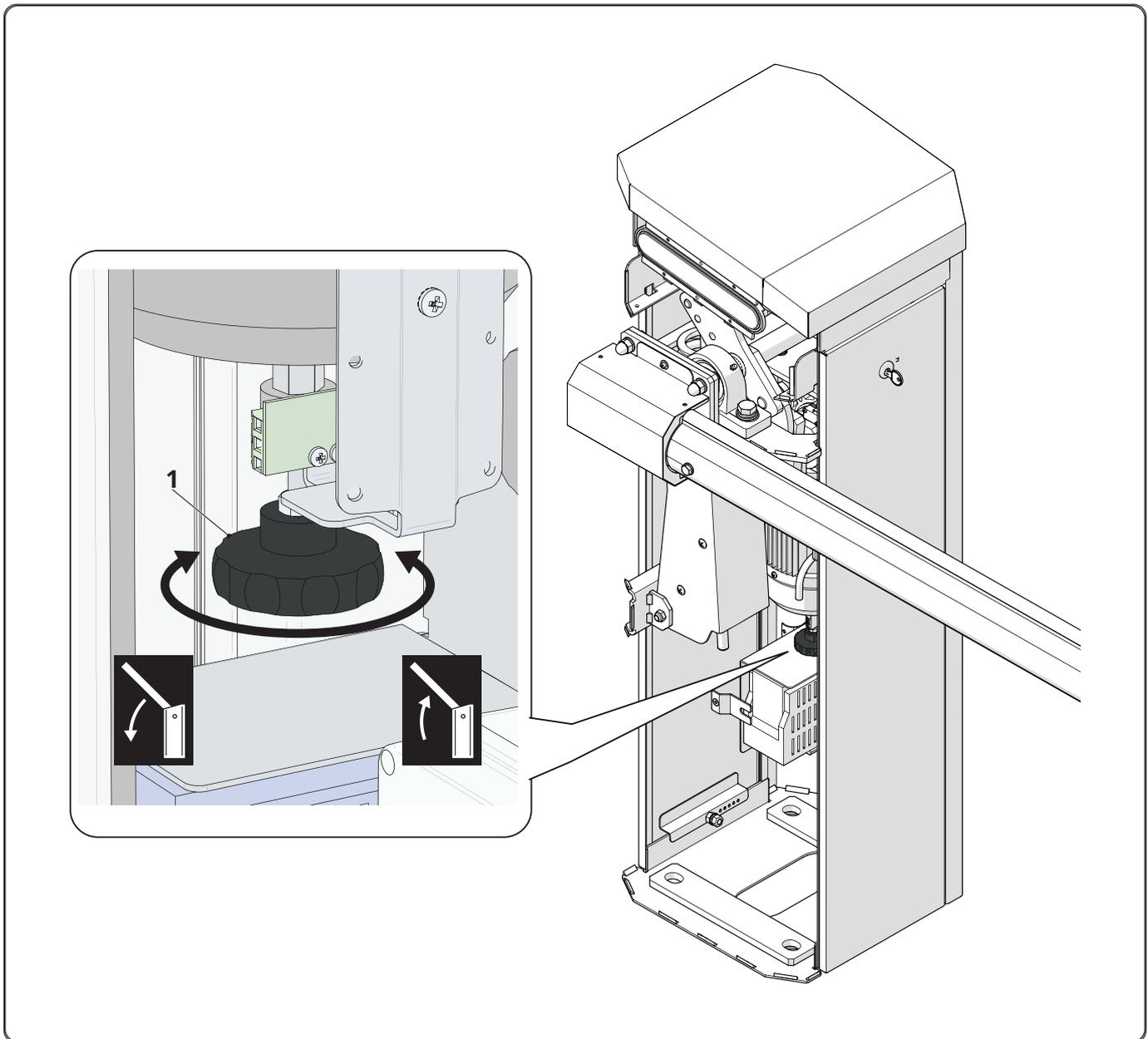
- Fasten the cover (9) to the omega-shaped bracket using the appropriate fixing screws (10)
- Tighten the screws using an Allen key.



4.5 Moving the boom manually

There is a knob (1) which can be used to move the boom manually:

- Tighten the knob to raise the boom
- Loosen the knob to lower the boom



4.6 Mounting the spring

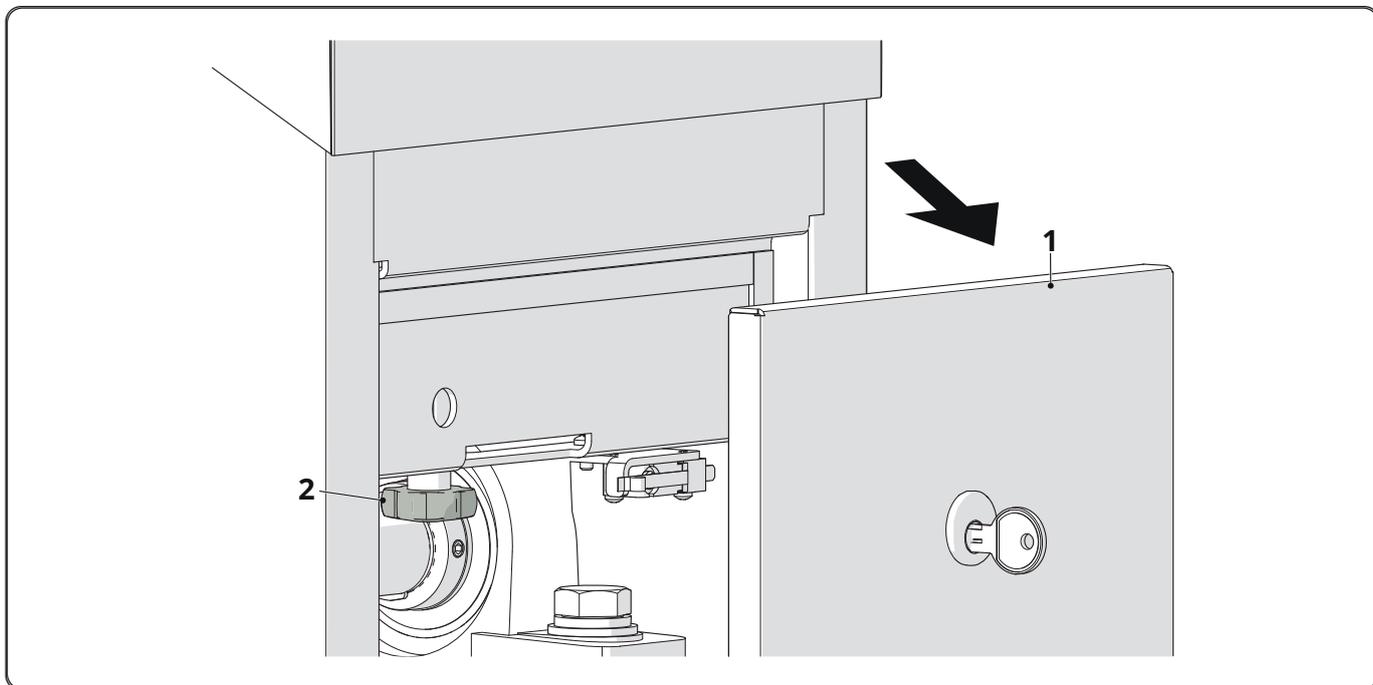
**WARNING**

The following operations must be carried out with the boom in the open position. Risk of crushing of the hands and feet

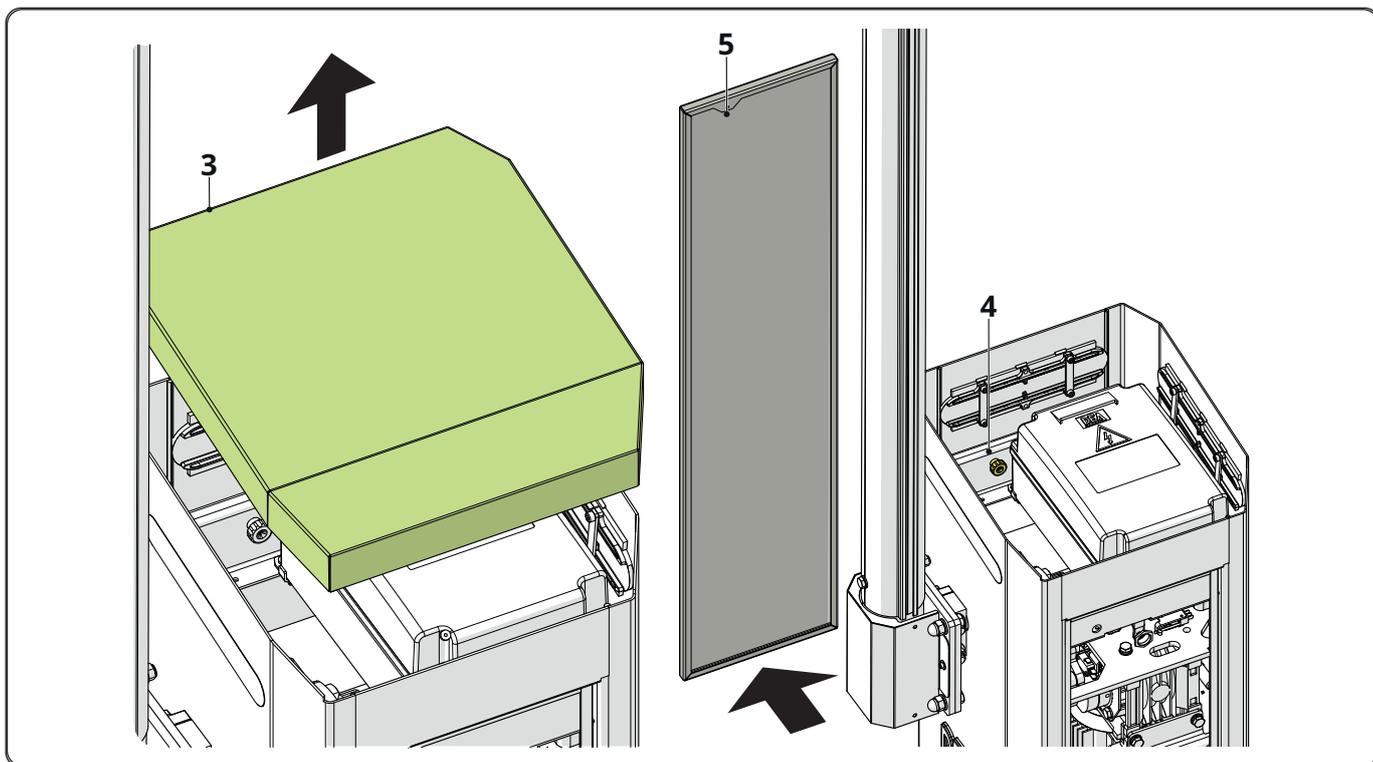
The procedure should be carried out by two operators to keep the boom steadily in place

To mount the spring, proceed as explained below:

- Remove the front panel (1) and loosen the knob (2) locking the cover



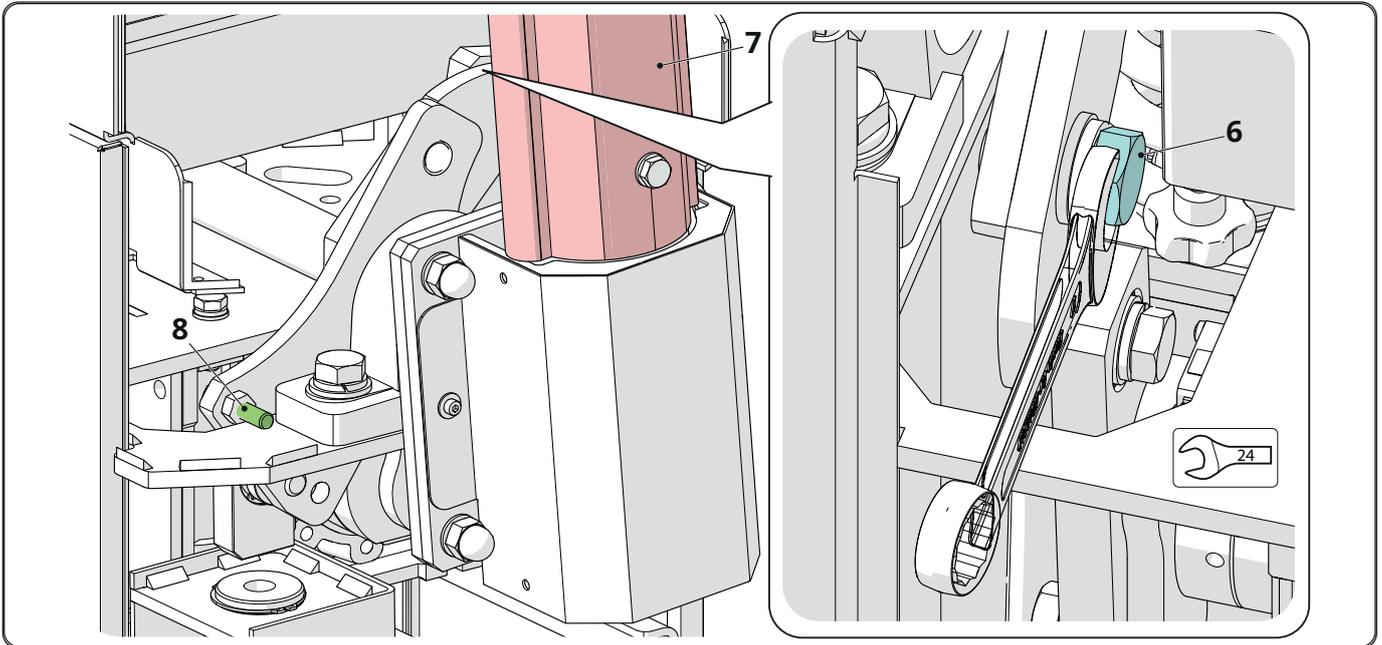
- Remove the top cover (3)
- Loosen the knob (4) and remove the rear panel (5)





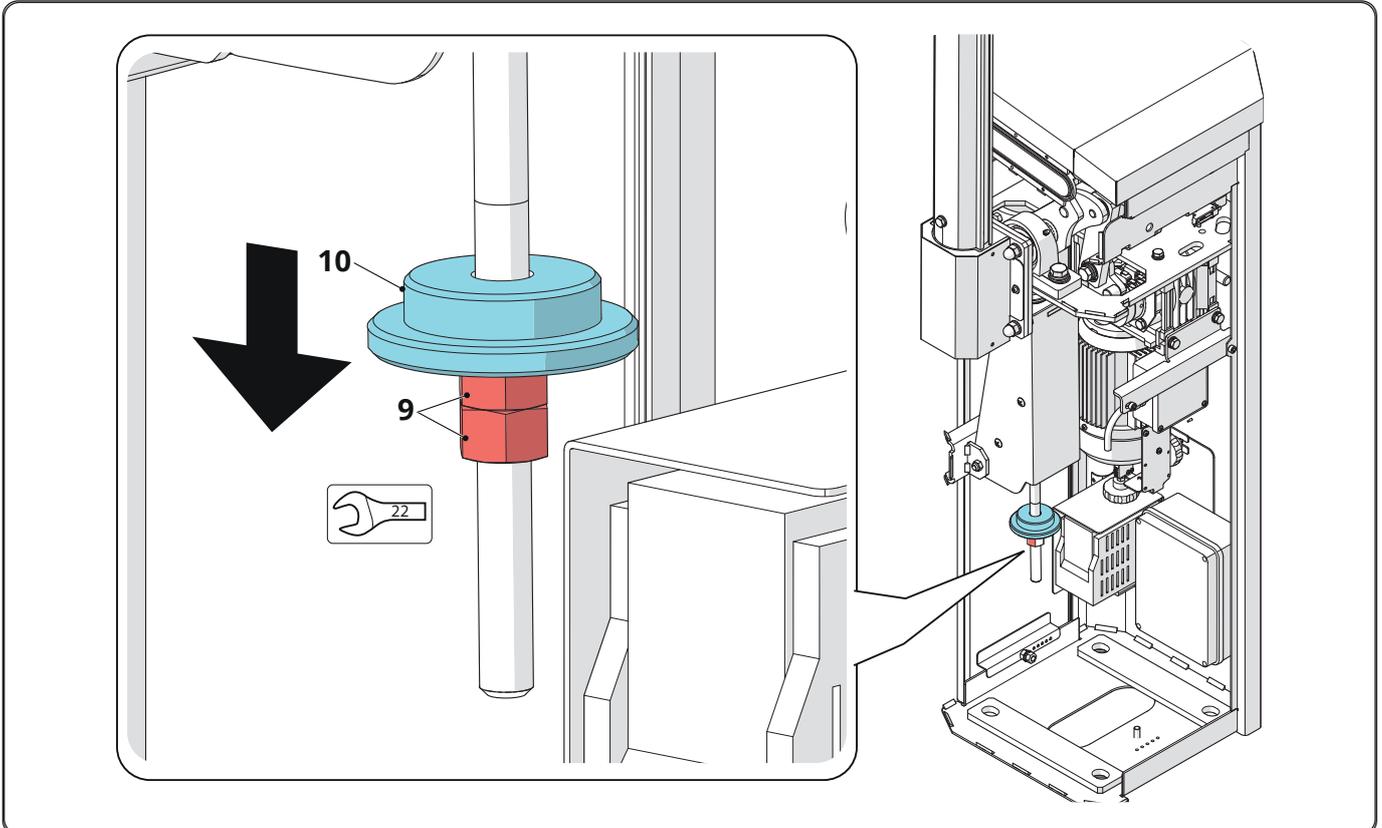
WARNINGS

- Before mounting the spring, manually lift the boom until it is fully open. Remove the bolt fastening the lever (6). Manually move the boom (7) until it touches the limit switch screw (8). This position is defined (B) and is the base position to be used for calibrating the spring (refer to the "" paragraph)

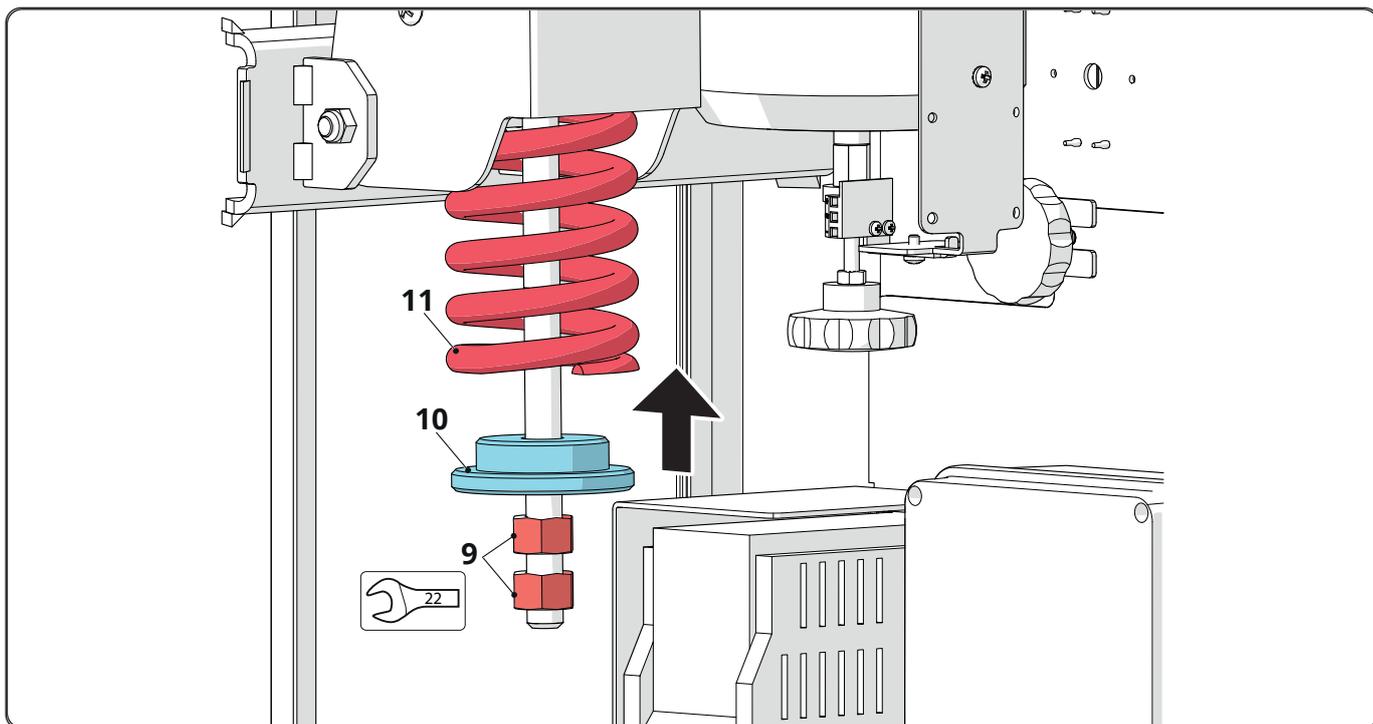


To fasten the spring, proceed as explained below:

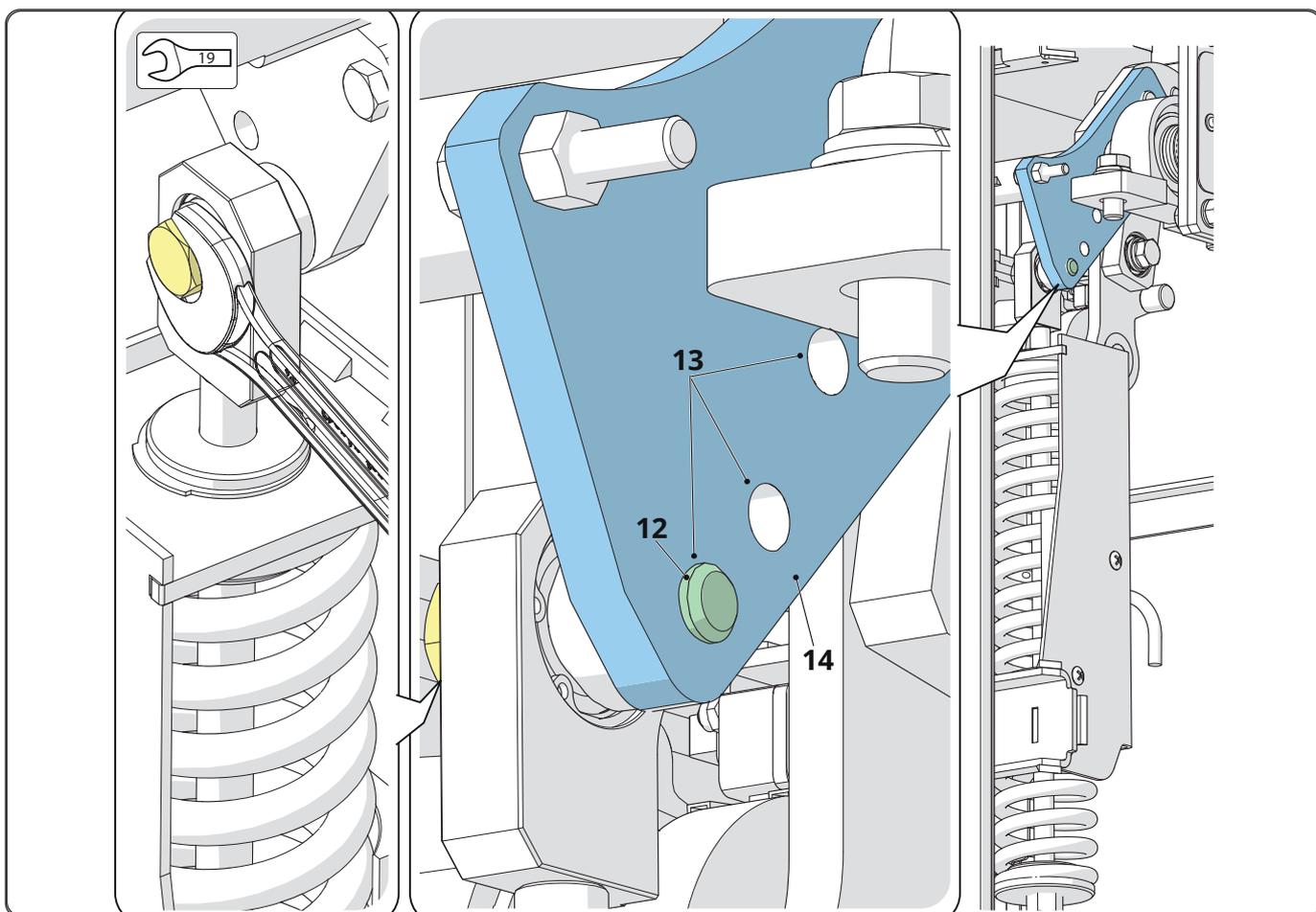
- Remove the nuts (9) and slide out the stop (10)



- Position the spring (11), insert the stop (10) all the way until it touches the spring and tighten the nuts (9). Use a spanner to lock the nuts in place



- Insert the bolt of the spring unit (12) into one of the three available positions (13) of the lever assembly (14).
- Position and tighten the bolt fastening the lever.



- To position the spring unit correctly, consult the paragraph relative to the spring calibration (refer to the "" paragraph)

5 Adjustments

5.1 Spring calibration and boom balancing

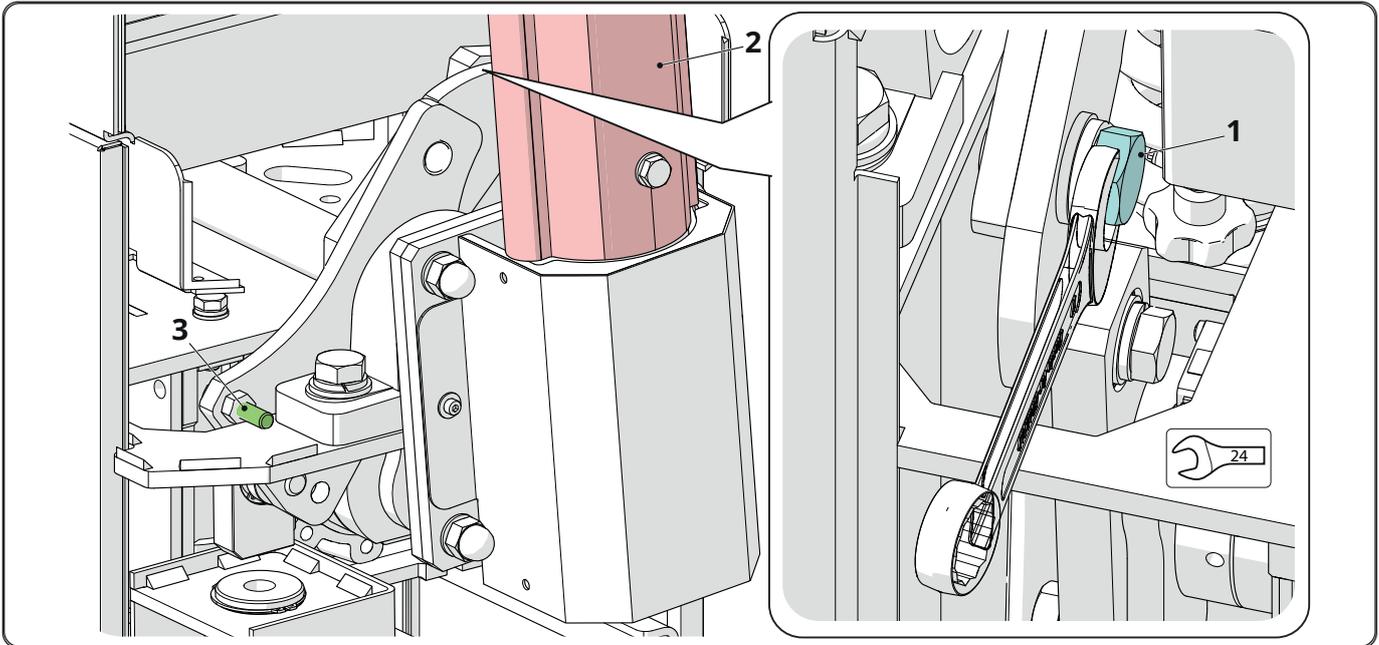


WARNING

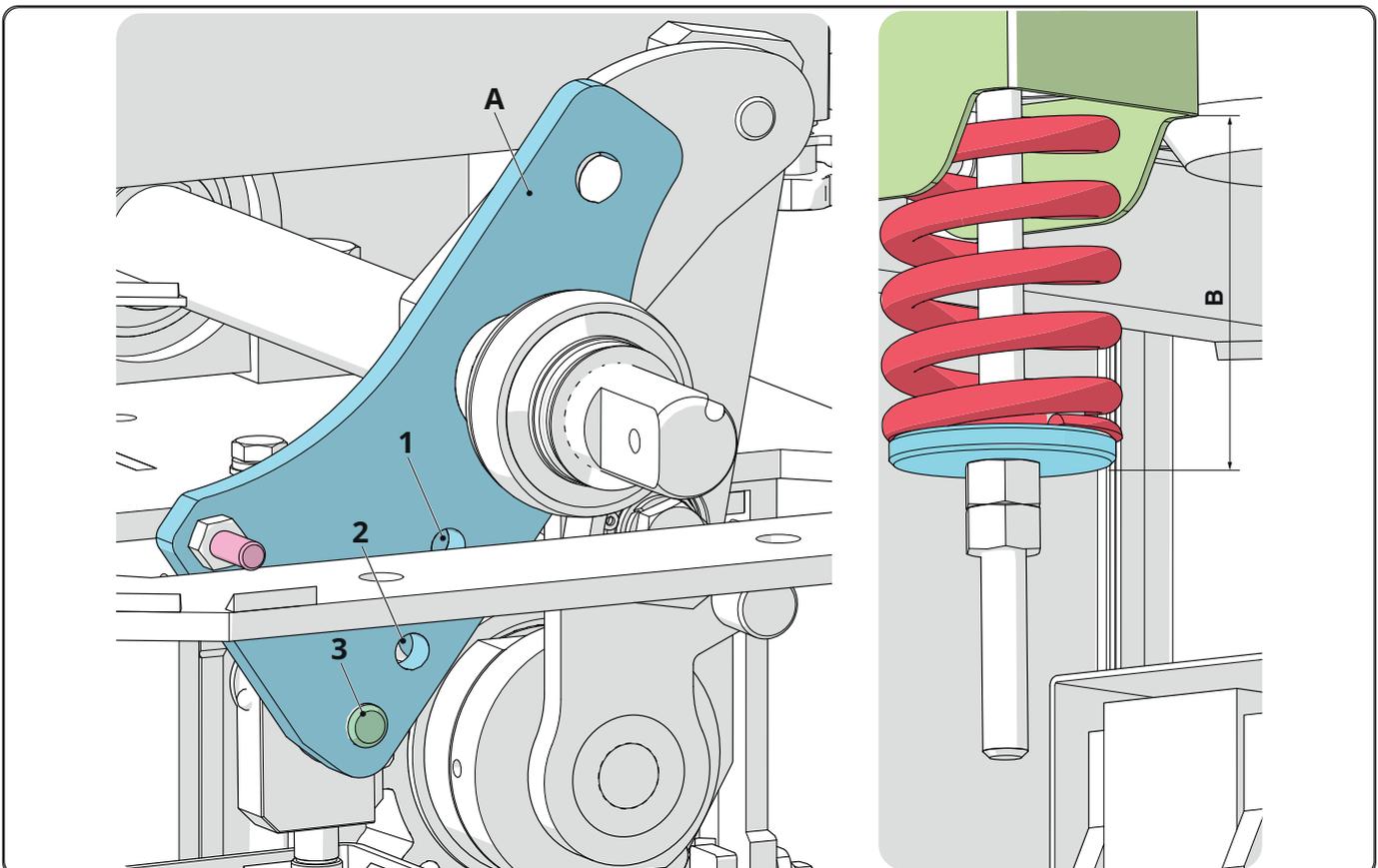
Before performing any intervention on the system, disconnect the power supply

To calibrate the spring and balance the boom, proceed as explained below:

- Manually raise the boom until it is fully open (refer to the "" paragraph)
- Remove the bolt fastening the lever (1)
- Manually move the boom (2) until it touches the limit switch screw (3)



- verify the distance (B) against the table shown further below



Type of installation	Positioning information	Boom length (item BOOM) (mm)								
		2000	2500	3000	3500	4000	4500	5000	5500	6000
item BOOM	position (A)	1	1	1	1	2	2	2	3	3
	range (B)	127	121	105	95	120	105	95	120	110
item BOOM and item 1006 (or item 1010/M)	position (A)	no	1	1	2	2	2	3	3	2*
	range (B)		100	90	125	105	95	120	110	95*
item BOOM and item GSOFTP	position (A)	1	1	1	2	2	3	3	3	3
	range (B)	120	112	95	115	100	125	115	105	110
item BOOM and item 1005/N	position (A)	no	1	1	2	2	3	3	3*	3*
	range (B)		100	85	95	95	115	105	130*	115*
item BOOM, item 1005/N and item 1006 (or item 1010/M)	position (A)	no	1	2	3	3	3	3	3*	3*
	range (B)		95	120	120	120	110	95	125*	105*



WARNING

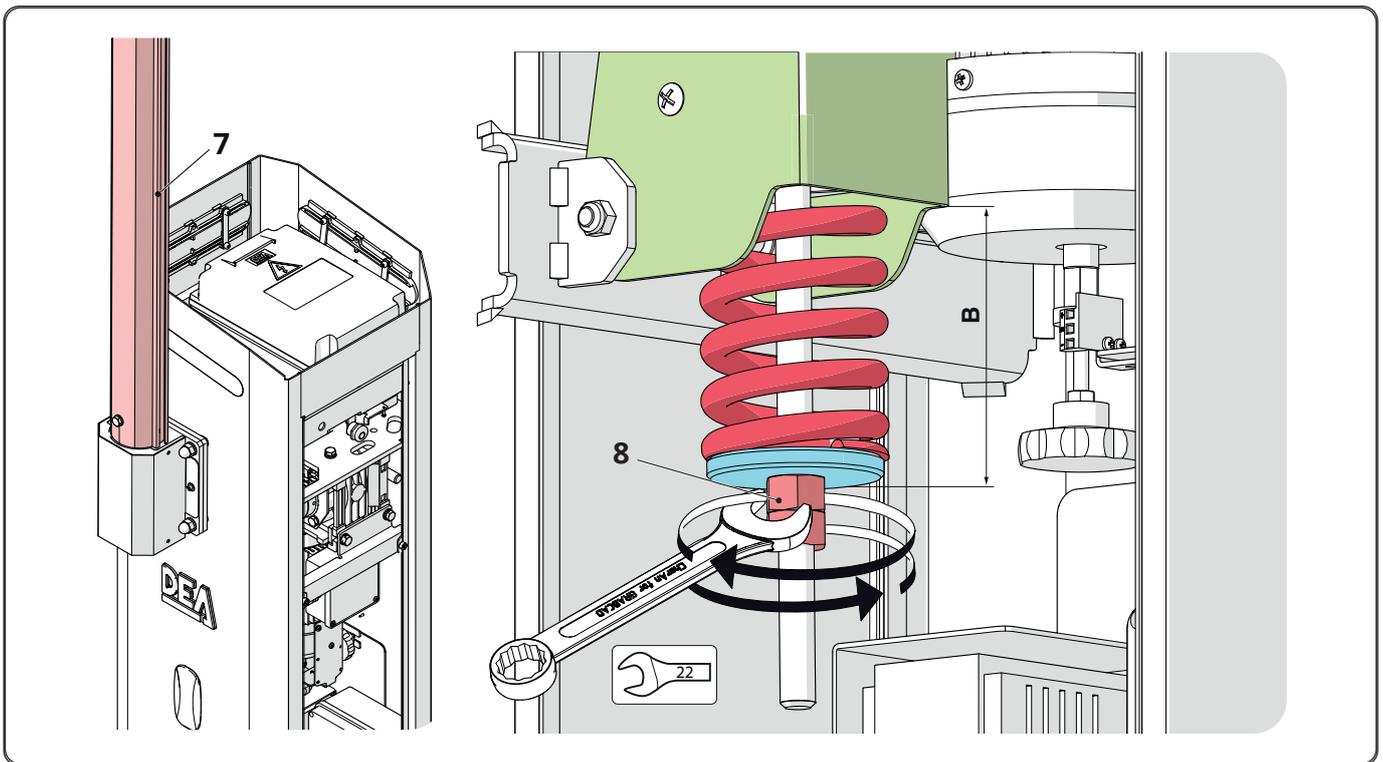
The data marked with "*" refers to the use of the spring XL (item code 649311)



WARNING

The data appearing in the table derives from laboratory tests. Verify that the boom is correctly balanced by following the procedure described below.

- move the boom to the opening position (7) (see the "" paragraph)
- tighten or loosen the nuts (8) to increase or decrease the distance (B) and thus correct the spring pre-load force



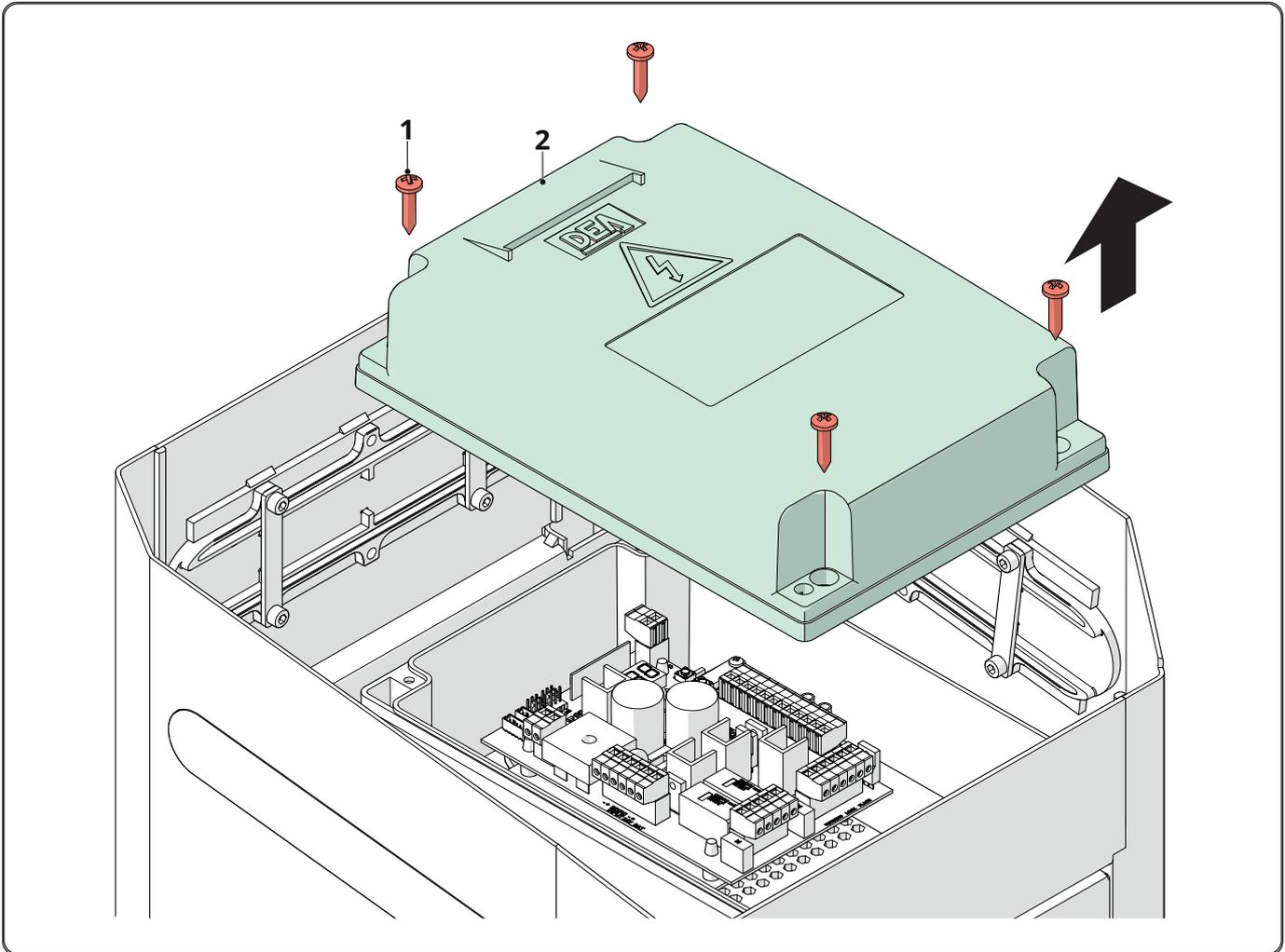
- position and tighten the bolt fastening the lever.

6 Commissioning

6.1 Configuring the control unit

To proceed with the configuration:

- Remove the front panel and loosen the knob locking the cover
- Remove the top cover
- Loosen the four screws (1) and remove the cover of the control unit (2)



WARNING

The cover of the box has a mounting direction. Make sure that you fasten the box with the hole for the threaded boom towards the front panel.

 **WARNING**
To ensure adequate electrical safety, keep the 230 V power supply cable well apart (minimum 4 mm in the air or 1 mm through insulation) from the safety extra-low voltage cables (control units, electric lock, antenna, auxiliary power supplies), by fastening them with adequate cable ties near the terminal blocks.

 **WARNING**
Connect to the 230 V $\sim \pm 10\%$ 50/60 Hz network using an omnipolar switch or other device guaranteeing the network's omnipolar disengagement, with a contact opening gap = 3 mm.

 **WARNING**
To connect the encoder to the control unit, exclusively use a dedicated 3 x 0.22 mm² cable.

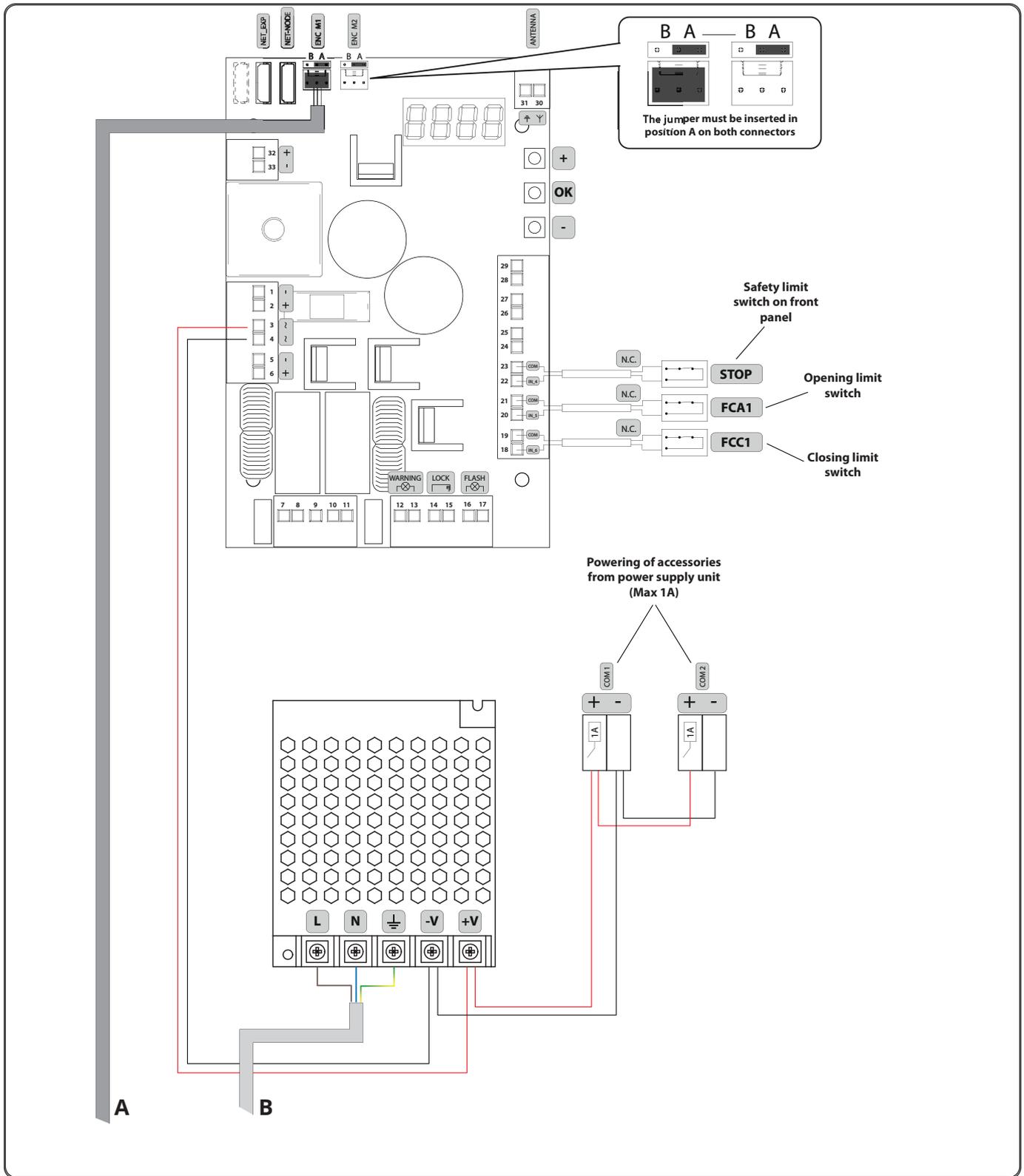
 **WARNING**
To ensure adequate electrical safety, all the cables must be double-insulated. Make sure that the safety extra-low voltage cables are kept clearly apart (minimum 4 mm in the air or 1 mm through a supplementary insulation) from the low-voltage cables (230V \sim) by placing them inside plastic cable trays and fastening them with adequate cable ties near the terminal blocks.

 **WARNING**
For the connection to the mains electricity, use a multipolar cable with minimum 3 x 1.5 mm² cross-sectional area and of the type specified in the applicable regulations. For the connection to the mains electricity, use a cable with minimum 1.5 mm² cross-sectional area of the type specified in the applicable regulations. For example purposes, if the cable is external (outdoors), it must be at least equal to H07RN-F, while if it is internal (in the cable tray), it must be at least equal to H05VV-F.

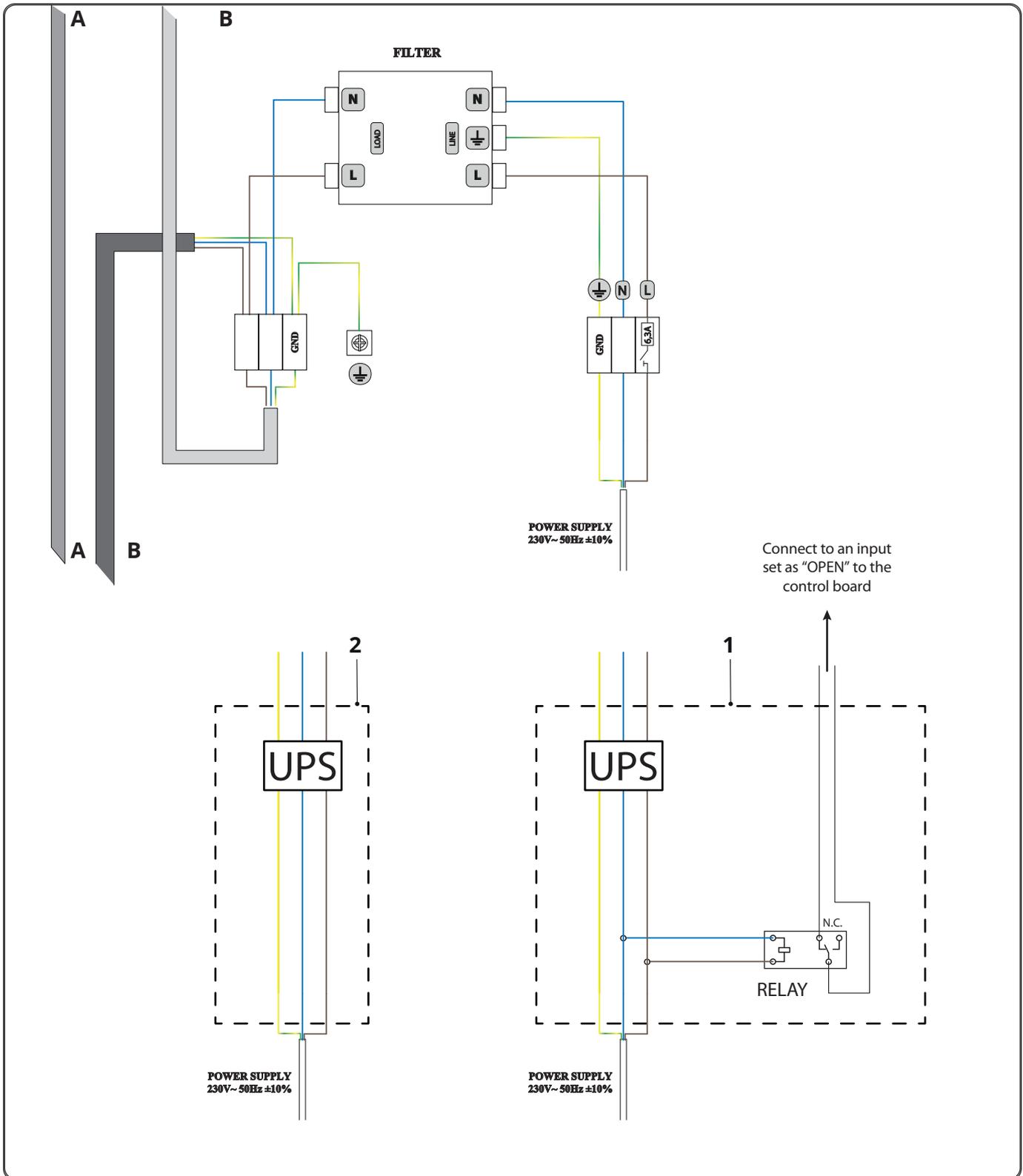
 **WARNING**
All the cables must be stripped and unshathed near the terminals. Keep the cables slightly longer so as to subsequently eliminate the excess part.

 **WARNING**
To connect the motor encoder to the control unit, exclusively use a dedicated cable with cross-sectional area $\geq 3 \times 0.25$ mm².

Upper electrical enclosure



Lower electrical enclosure



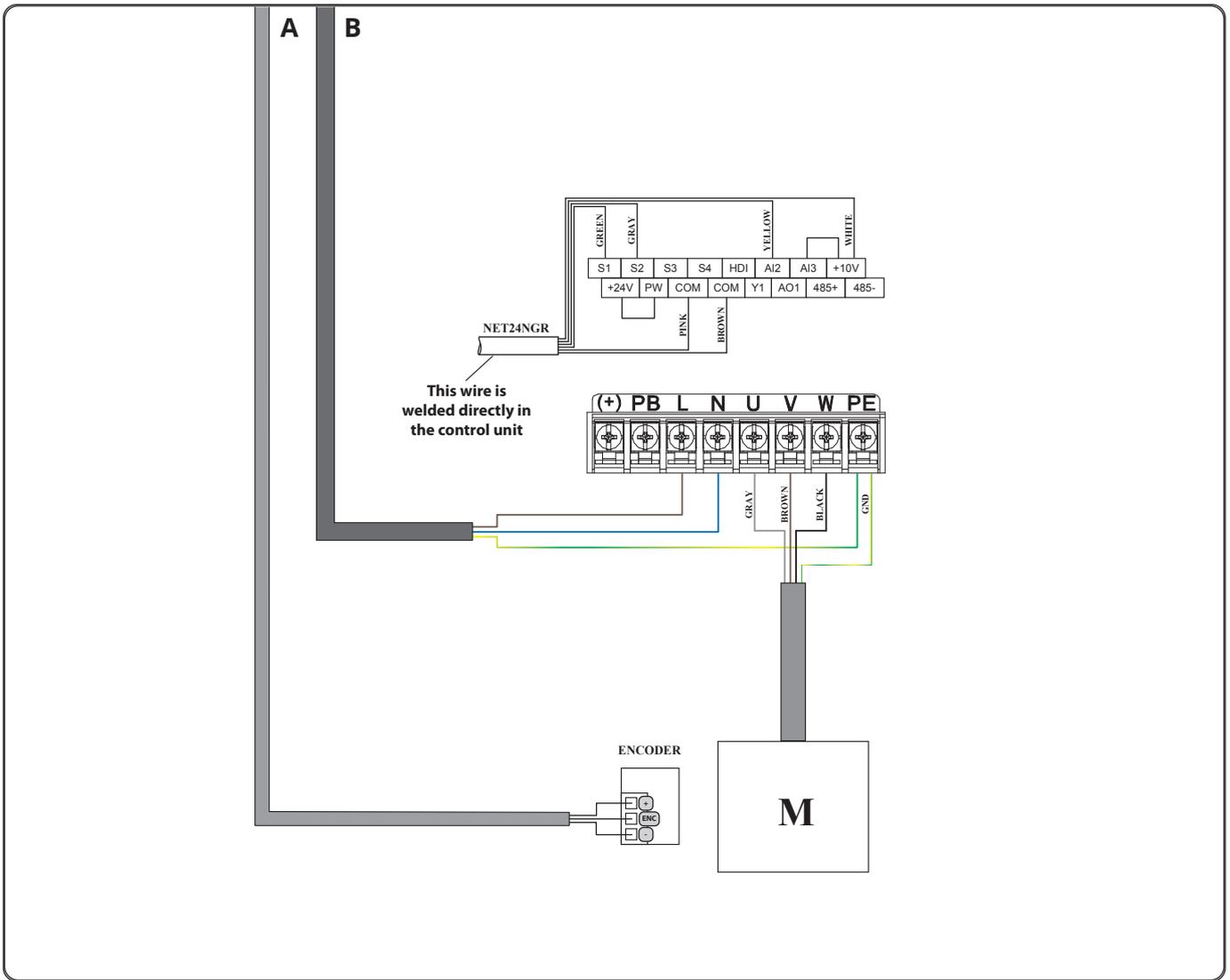
Wiring diagram (1) shows the connection of an optional UPS for the barrier's automatic opening in the event of a power outage. If a blackout occurs, the barrier completes an opening movement and stays open, ignoring any commands until the electricity has been restored.

Connect the relay to an input configured as "OPEN" on the control unit (see the "" paragraph), making sure that it is wired upstream with respect to the UPS.

Wiring diagram (2) shows the connection of an optional UPS for the barrier's normal operation in the event of a power outage. Considering the full-load use of the boom barrier (6 m plus accessories), roughly 35 manoeuvres can be completed with a battery of at least 7 Ah.

The UPS and relay are not supplied. We suggest using an UPS with a rated power of at least 700 VA/420 W.

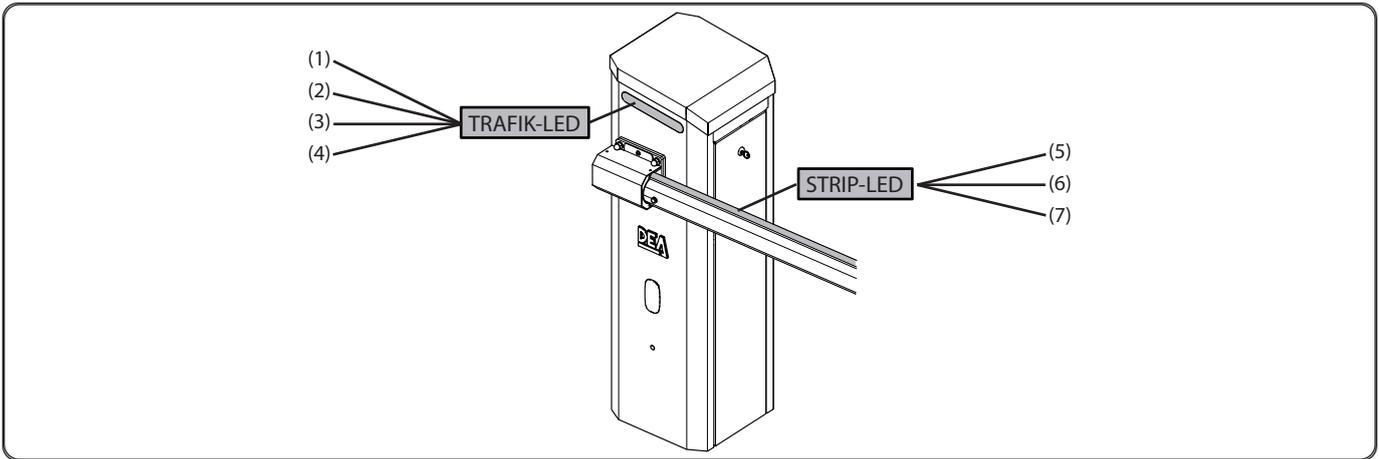
Inverter



WARNING

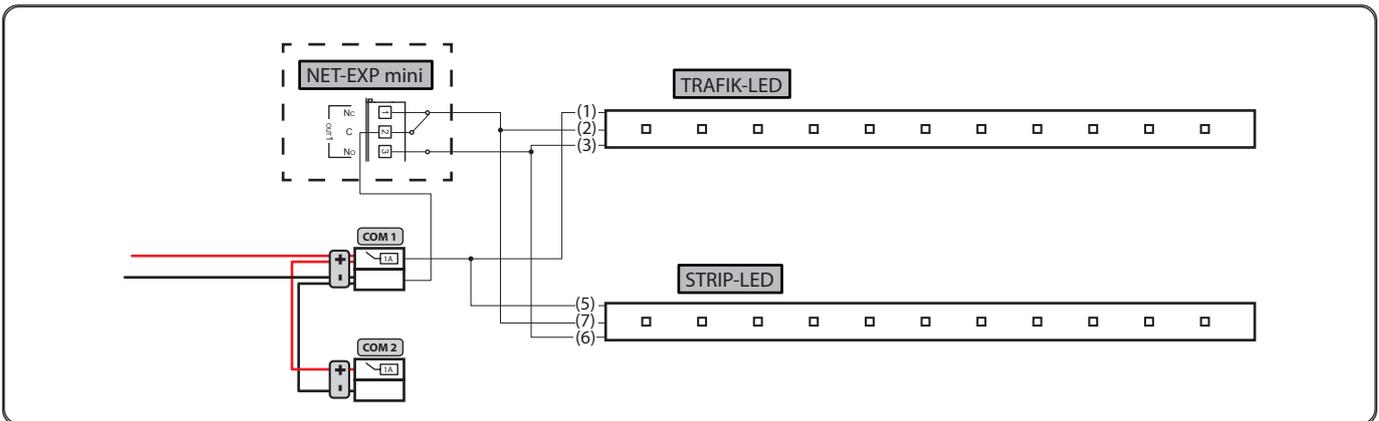
During normal operation, messages appear on the inverter's display. If any error messages appear, contact **DEA System S.p.A.**

Connecting the luminous LED strips



- 1 Black wire = common
- 2 Red wire = Red light
- 3 Green wire = Green light
- 4 Blue wire = Blue light
- 5 Black wire = common
- 6 Yellow wire = Green light
- 7 Red wire = Red light

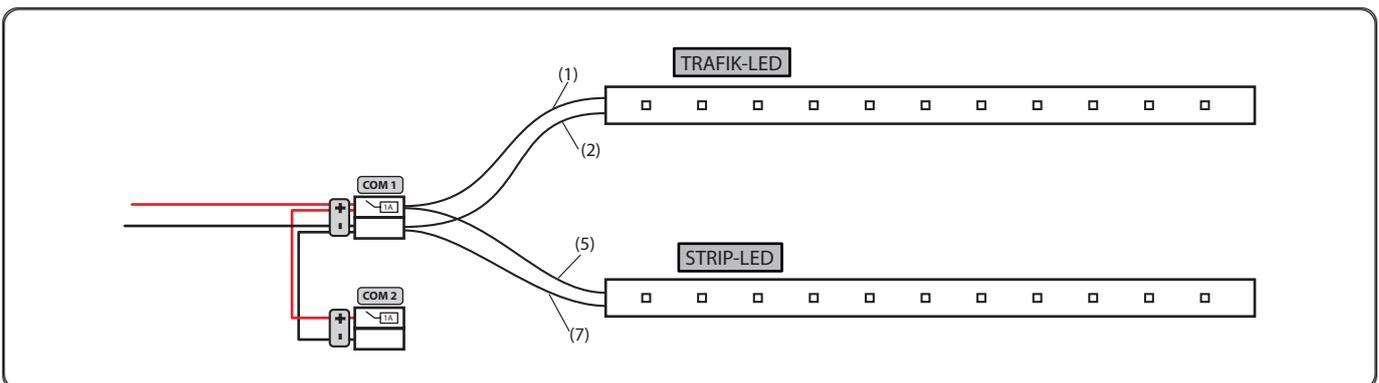
Wiring diagram for steady red light during the closing manoeuvre, flashing red light during movement and steady green light during the opening manoeuvre



To perform this type of connection, the NET-EXP MINI input expansion board is required (sold separately, item code 677622)

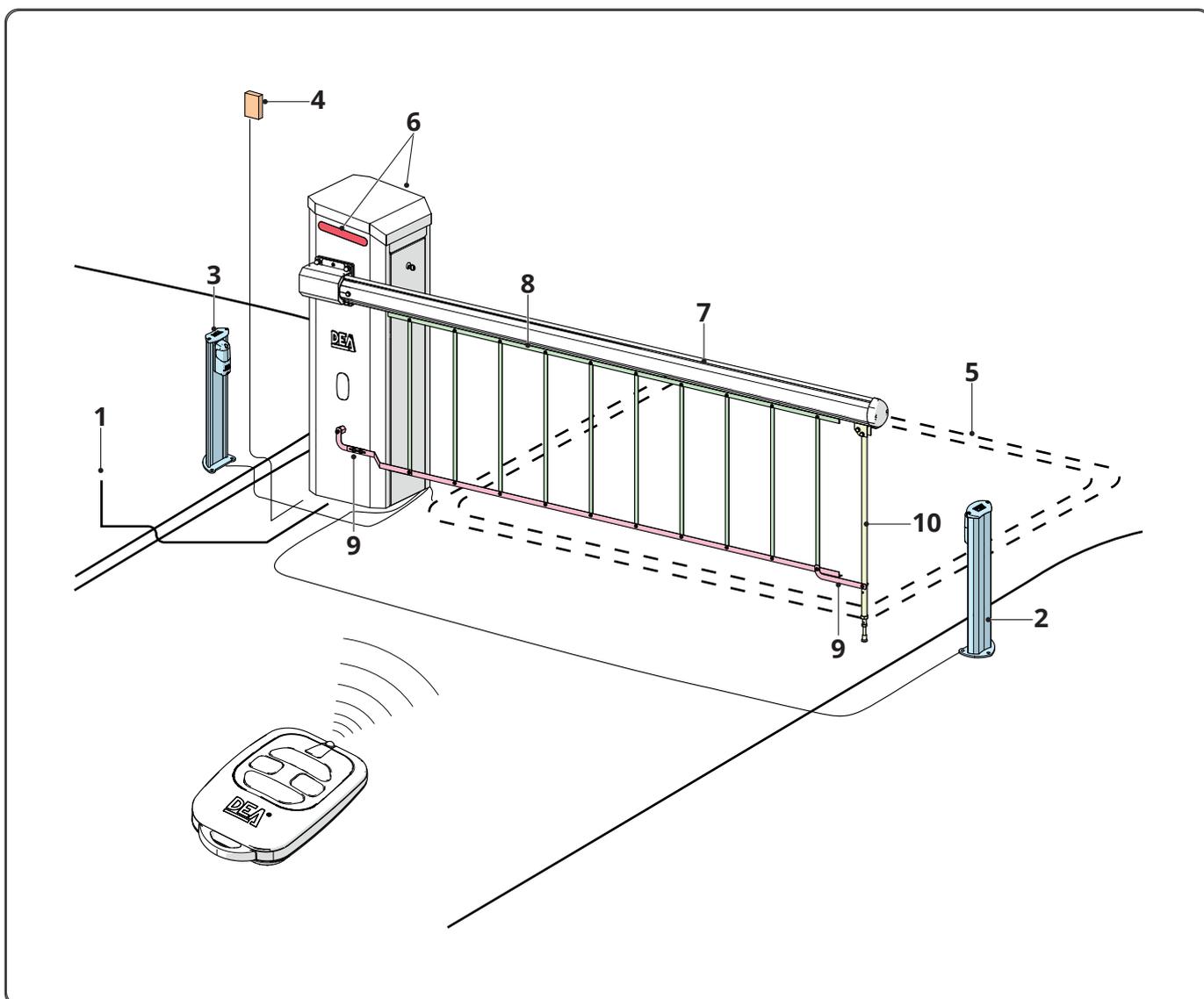
⚠ WARNING
Set parameter P091=013 (TRAFFIC_LIGHT_INT)

Wiring diagram for steady red light with one colour during both the closing and opening manoeuvres



6.3 Installation example

DEA System provides the following instructions applicable to a typical system but obviously not complete for every system. For each device the installer must carefully assess the actual conditions on the site. The installation must be based on these considerations in terms of performances and safety, which will constitute the basis for the risk analysis and the detailed design of the device.



- 1 Single-phase line
- 2 Transmitting photocell
- 3 Receiving photocell
- 4 Key-operated selector
- 5 Magnetic spire
- 6 Internal LED strip
- 7 Plastic cover for LED strip
- 8 Fence
- 9 Fence guide
- 10 Foot

Position	Description	Absorption
3-4	22 V ~ power input from power supply	
5-6	Not used	
7-8	Not used	
9	Not used	
10-11	Not used	
12-13	24 V max 15 W output for steady open gate indicator light (if P052=0), intermittent (if P052=1) or courtesy light (if P052>1)	max 625 mA
14 (+) 15 (-)	"Boost" output for electric lock max 1 item 110 (if P062=0), 24V max 5W impulsive output (if P062=1), step-by-step output (if P062=2), electric holding brake output for reversible motors (if P062=3), output for powering electric lock through an external relay (if P062=4), output for powering electromagnets for barriers (if P062=5) or timer-based output (if P062>5).	max 200 mA
16-17	24 V max 15 W warning light output item AURA24	max 625 mA
18 (N.C.) 19 (com)	Input 6 FCC 1 (closing limit switch 1). If it intervenes, it stops the closing movement of motor 1. Bridge if not used.	Do not disconnect If the installation requires different and/or additional controls with respect to the standard, each input can be configured for the desired operation. Refer to the "Advanced programming" chapter.
20 (N.C.) 21 (com)	Input 5 FCA 1 (opening limit switch 1). If it intervenes, it stops the opening movement of motor 1. Bridge if not used.	
22 (N.C.) 23 (com)	Input 4 STOP. If it intervenes, it stops the movement during any manoeuvre. If not used, bridge the input.	
24 (N.C.) 25 (com)	Input 3 PHOTO 1. When enabled (see P050 in the parameter table), activation of the PHOTO 1 input causes the reversal of movement (during closing) and stoppage (during opening), and prevents the start (with gate closed). Bridge if not used.	
26 (N.C.) 27 (com)	Input 2 CLOSE. If it intervenes, it triggers the closing manoeuvre	
28 (N.C.) 29 (com)	Input 1 OPEN. If it intervenes, it triggers the opening manoeuvre	
	Radio antenna signal input	
	Radio antenna earth input	
32 (+) 33 (-)	24 V output \equiv auxiliary power supplies	(AUX + ST) = max 200 mA
1 (+) 2 (-)	24 V stabilised output \equiv powering of controlled safety devices	
Encoder J5	Motor 1 encoder (to be set to position A)	
COM 1	24 V output \equiv powering of auxiliary devices from power supply unit	max 1A
COM 2	24 V output \equiv powering of auxiliary devices from power supply unit	max 1A

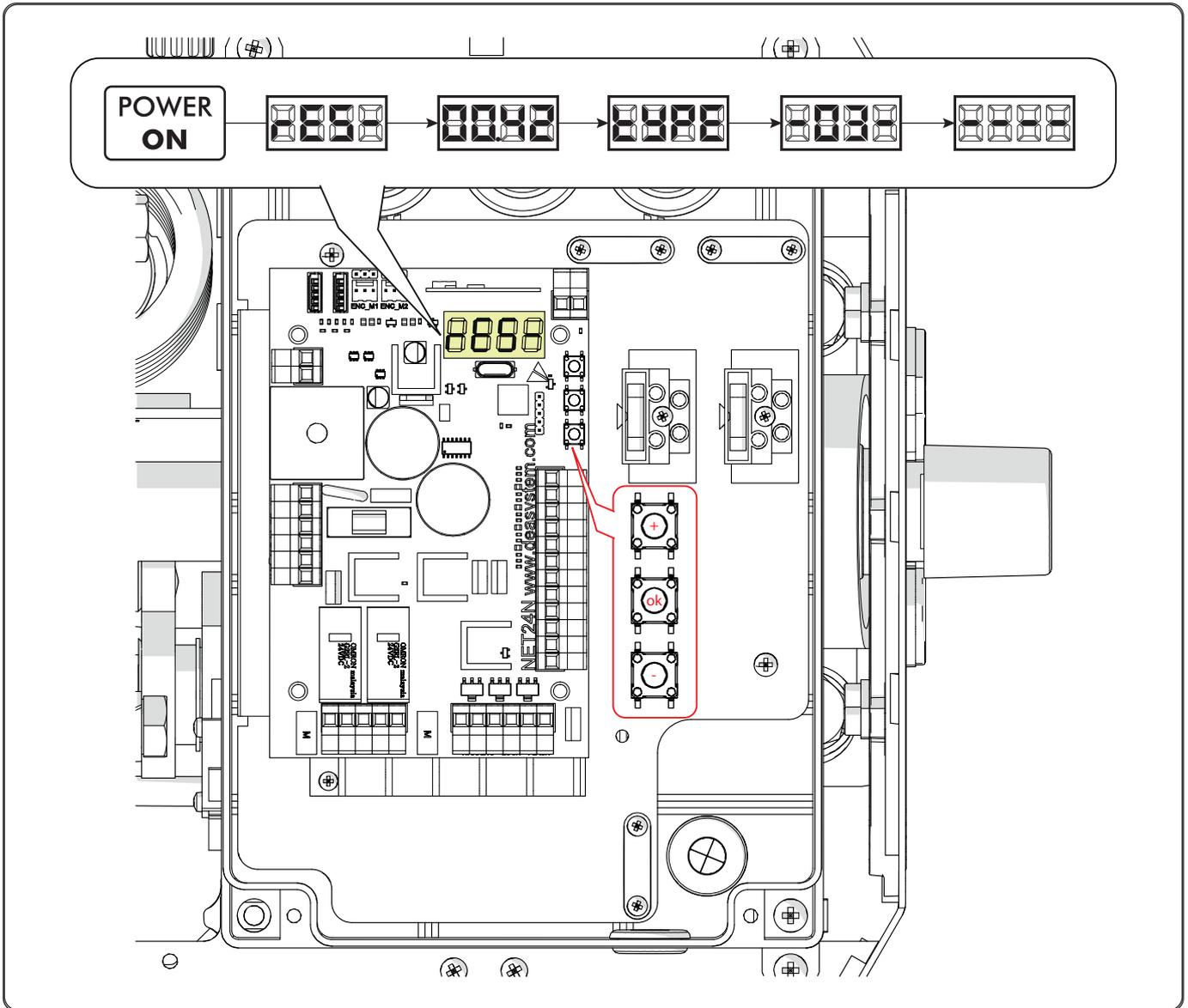
 **WARNING** The power supply unit supplies 2200 mA. The control unit's maximum absorption with all the accessory outputs occupied is 1860 mA. To use the residual energy, ports COM1 and COM2 must be used

 **WARNING** Outputs COM1 and COM2 withstand a maximum load of 1000 A per output

7 Programming

7.1 Standard programming

- Power the device. The words "r E 5 -", "0 0 4 2" (or the firmware version currently in use), "E Y P E", "- 0 3 -" will appear in sequence on the display (the only one available for **TRAFIK** followed by the gate closed symbol - - - -)

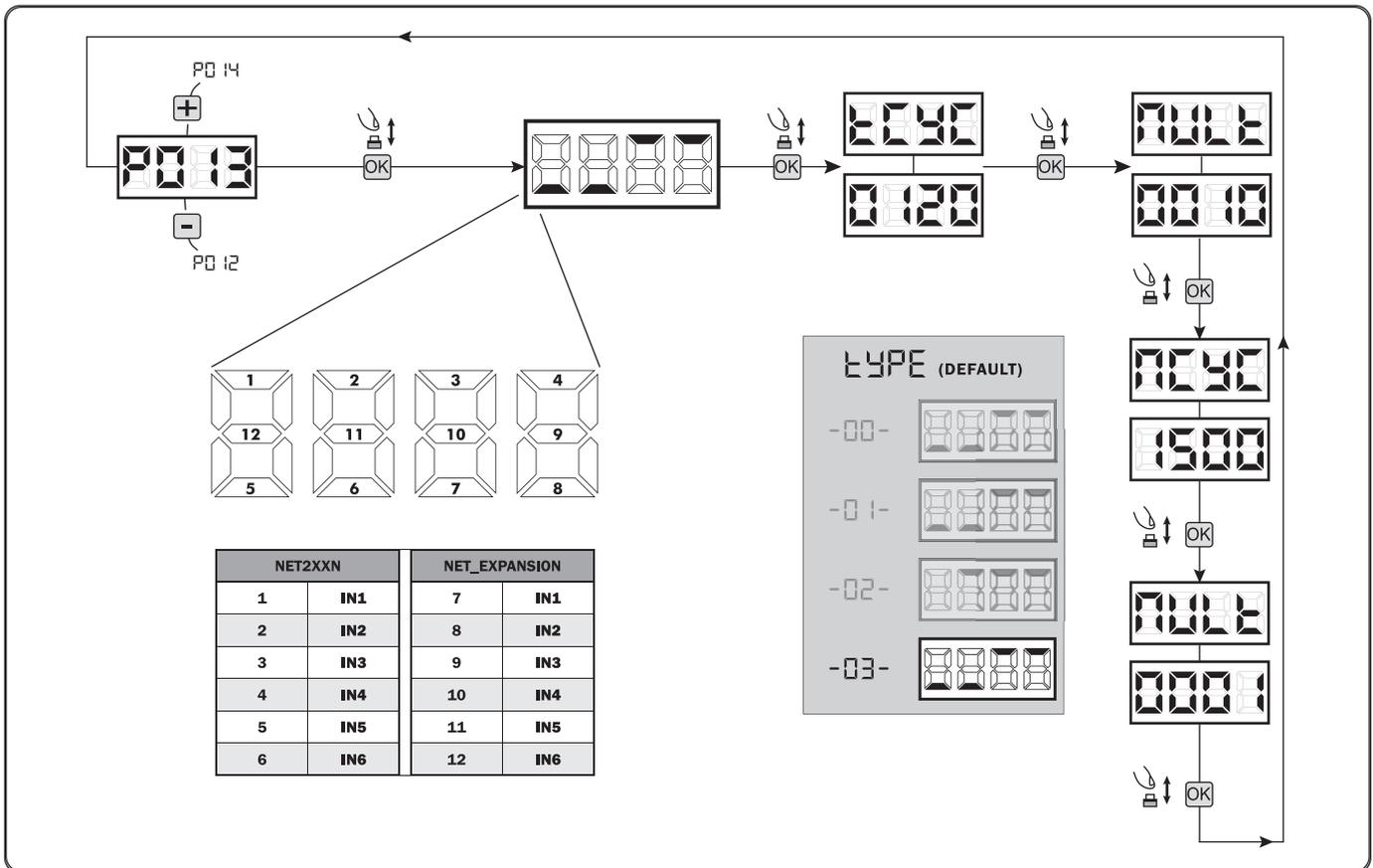


WARNING

If the control unit has already been programmed and its reactivation is due to a blackout, at the first START impulse, the position reset procedure will be carried out (see "r E 5 P" under the "" paragraph)

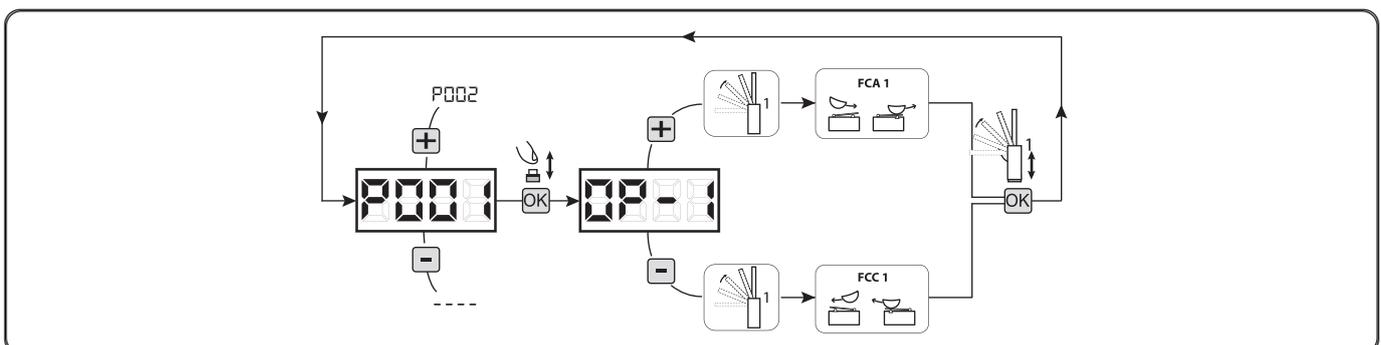
Visualisation of the input status and manoeuvre counter

- Scroll the parameters with the \oplus and \ominus buttons until "P013" appears on the display
- Access the parameter by pressing the OK button
- The "Input status" will appear on the display (check that it is correct). " " indicates the closed contact.
- Press the OK button again
- The display will show the "Total manoeuvre counter" "E C Y C", followed by the multiplier "N U L E". To calculate the number of manoeuvres completed, the two values must be multiplied. E.g. "E C Y C" = 120x10 = 1200 manoeuvres completed
- Press the OK button again
- The display will show the "Maintenance manoeuvre counter" "N C Y C", followed by the multiplier "N U L E". To calculate the number of manoeuvres remaining before the maintenance request, the two values must be multiplied. E.g. "N C Y C" = 1500x1 = 1500 manoeuvres still to be completed before the request for a maintenance intervention
- Press the OK button again to exit the parameter ("P013" will reappear on the display)



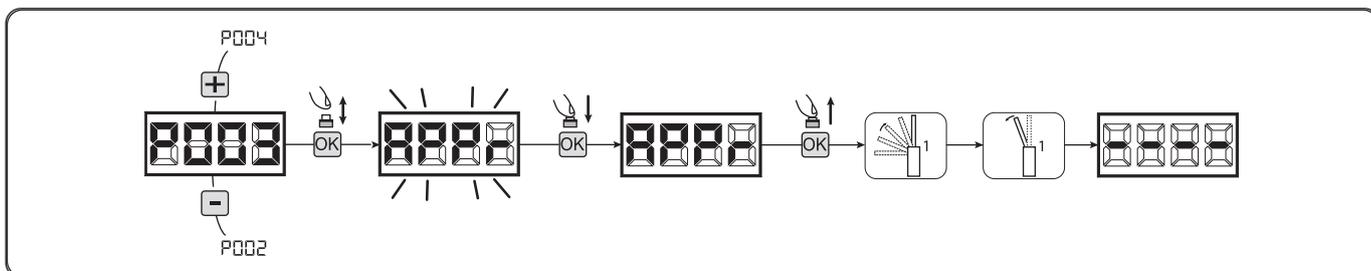
Limit switch cam adjustment

- Scroll the parameters with the \oplus and \ominus buttons until "P001" appears on the display
- Access the parameter by pressing the OK button
- Touch the " \oplus " (OPEN) and " \ominus " (CLOSE) buttons, move the boom to the opening position and adjust the relative limit switch cam so that it crushes the limit switch in that point
- Repeat the operation by adjusting the closing limit switch
- Confirm the choice by pressing the OK button ("P001" will reappear on the display)



Motor stroke learning

- Make sure that you have adequately adjusted the opening and closing limit switch cams (see the "" paragraph)
- Scroll the parameters with the ⊕ and ⊖ buttons until "P003" appears on the display
- Access the parameter by pressing the OK button
- When "RPPr" flashes on the display, press and hold the OK button
- Release the OK button as soon as "RPPr" stops flashing.
- Start the learning procedure with the motor on the opening movement (if it starts on the closing movement, disconnect the power supply, invert two of the three phases of the motor on the inverter and repeat the operation)
- Wait for the boom to search for and stop on the opening limit switch cam and then on the closing one
- Once the manoeuvre terminates, " - - - -" will reappear on the display
- Repeat the procedure for an additional barrier



Remote control learning

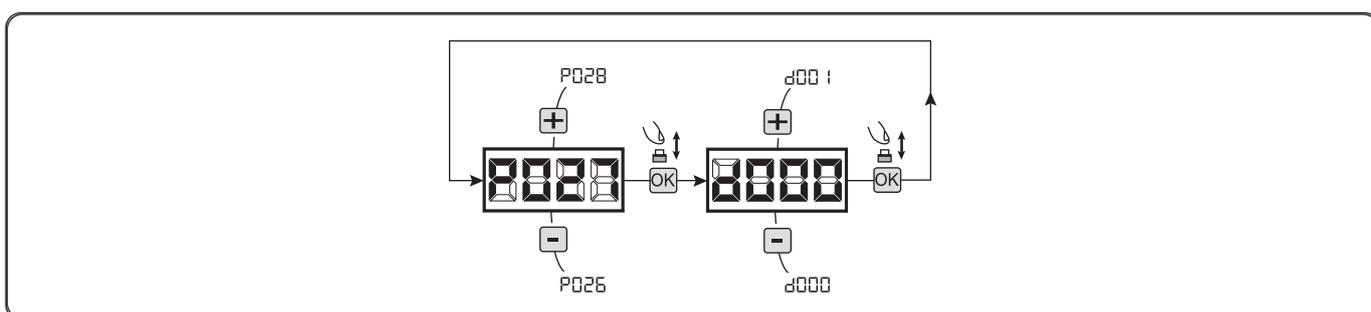
To select the type of remote control:

- Scroll the parameters with the ⊕ and ⊖ buttons until "P027" appears on the display
- Access the parameter by pressing the OK button
- Select the type of remote control using the ⊕ and ⊖ buttons:
 - "d000" = HCS fix-code
 - "d001" = HCS rolling-code
 - "d002" = Dip-Switch
 - "d003" = DART
- Confirm the choice by pressing the OK button ("P027" will reappear on the display)



WARNING

If the type of coding must be varied and only if the memory already contains remote controls with different codes, the memory deletion ("P004") procedure must be carried out **AFTER** setting the new code



To perform the remote control learning procedure:

- Scroll the parameters with the \oplus and \ominus buttons until "P 0 0 5" appears on the display
- Access the parameter by pressing the OK button
- When "L E R -" appears, press a button of the remote control to be memorised
- The code of the remote control that has just been memorised will appear on the display followed by "L E R -"
- Repeat the operation from point 3 to memorise any additional remote controls
- Conclude the memorisation procedure by waiting 10 seconds until " - - - -" appears on the display



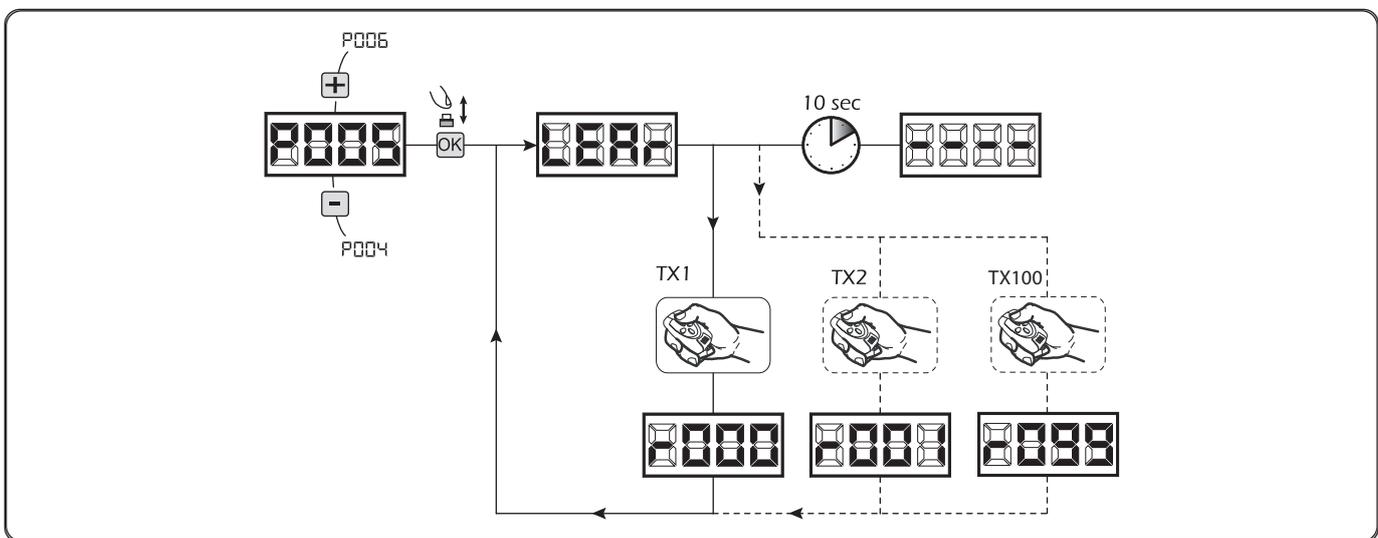
WARNING

If remote controls coded with the rolling code system are used, the receiving device can be learned by giving an impulse with the hidden button of a previously learned remote control.



WARNING

If there are personalised remote controls, after accessing "P 0 0 5" the first personalised remote control can only be learned by pressing the hidden button. Subsequently, it will only be possible to learn remote controls with the same encryption key as the first one (using the same procedure) unless the memory is reset ("P 0 0 4")



Modifying the operating parameters

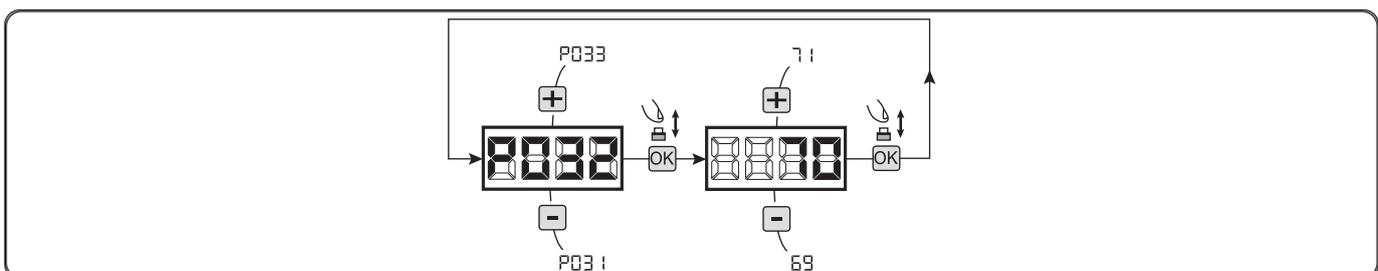
Carry out the following procedure to modify any operating parameter:

- Scroll the parameters with the \oplus and \ominus buttons until the desired parameter appears on the display (e.g. "P 0 3 2")
- Access the parameter by pressing the OK button
- Press the \oplus and \ominus buttons to set the desired value
- Confirm the choice by pressing the OK button (the previously selected parameter will reappear on the display)



WARNING

For the complete list of parameters, see the paragraph



At the end of the programming procedure, press the \oplus and \ominus buttons until the " - - - -" symbol appears. The device will now wait to receive commands for normal operation. For advanced programming sequences, see the paragraph

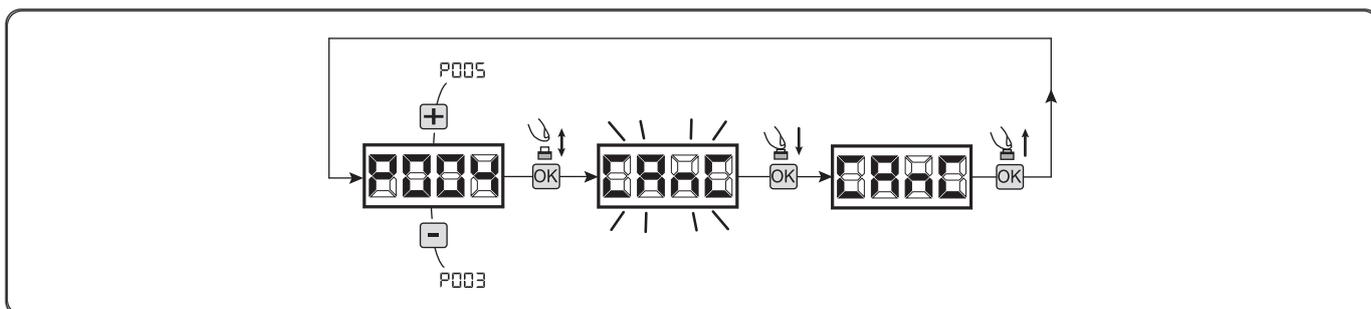
7.2 Advanced programming

Below are a few programming procedures relative to the management of the remote control memory and the advanced configuration of control inputs

Deletion of all memorised remote controls

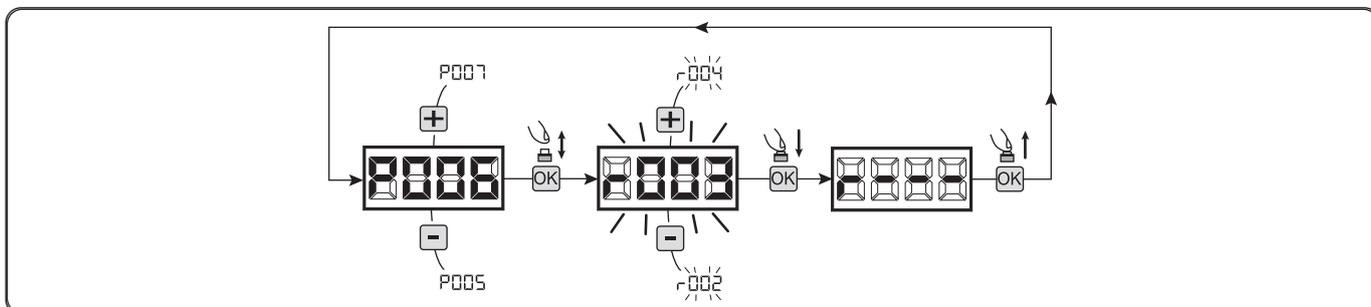
Deleting all remote controls

- Scroll the parameters with the \oplus and \ominus buttons until "P004" appears on the display
- Access the parameter by pressing the OK button
- When "C R n C" flashes on the display, press and hold the OK button
- Release the OK button as soon as "C R n C" stops flashing
- All memorised remote controls will have been deleted ("P004" reappears on the display)



Searching for and deletion of a remote control

- Scroll the parameters with the \oplus and \ominus buttons until "P006" appears on the display
- Access the parameter by pressing the OK button
- Press the \oplus and \ominus buttons to choose the remote control to be deleted (e.g. "r 003")
- When "r 003" flashes on the display, press and hold the OK button
- Release the OK button as soon as "r - - -" appears
- The selected remote control will have been deleted ("P006" reappears on the display)

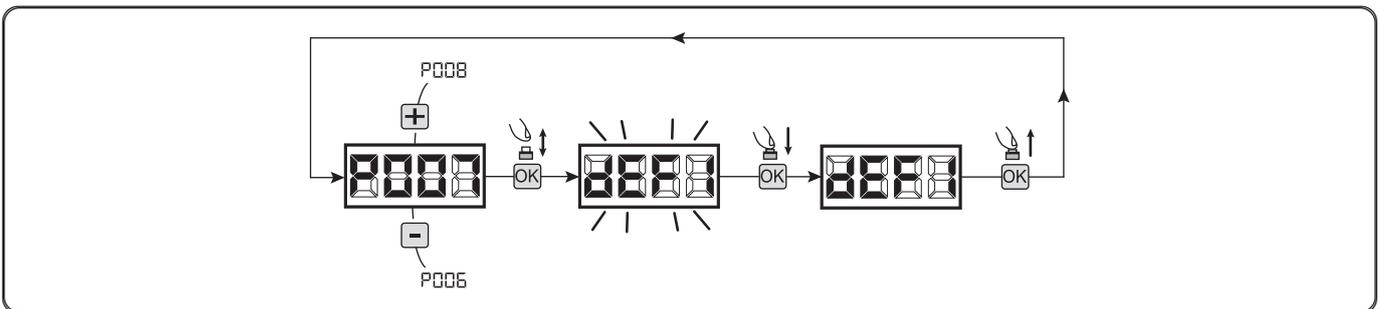


Restoring the default parameters

To restore the operating parameters

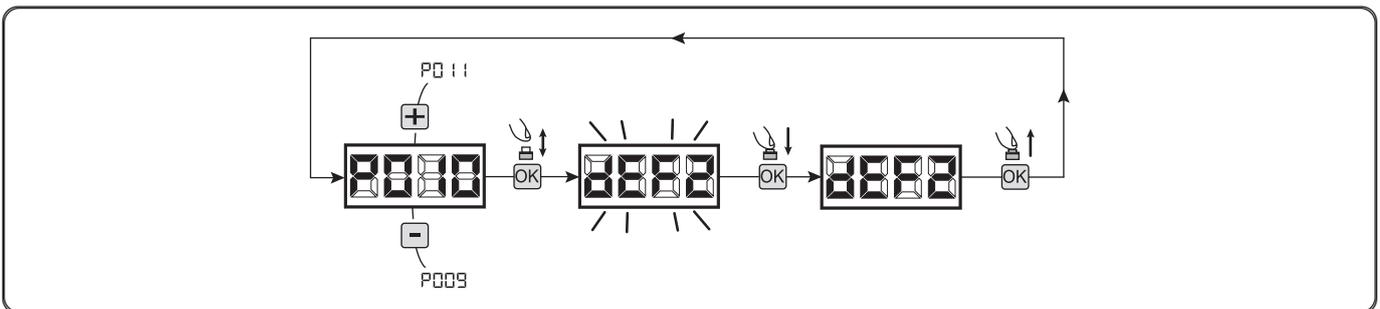
- Scroll the parameters with the \oplus and \ominus buttons until "P007" appears on the display
- Access the parameter by pressing the OK button
- When "dEF1" flashes on the display, press and hold the OK button
- Release the OK button as soon as "dEF1" stops flashing
- All the default values will be restored except for the parameters from "P016" to "P022" and from "P078" to "P099" for the current configuration
- Once the operation has been completed, "P007" will reappear on the display

WARNING After restoring the default parameters, the control unit must once again be programmed and all the operating parameters readjusted.
In particular, remember to correctly set the motor configuration parameters "P028", "P029", "P030"



To restore the settings "I/O" (Input/Output)

- Scroll the parameters with the \oplus and \ominus buttons until "P010" appears on the display
- Access the parameter by pressing the OK button
- When "dEF2" flashes on the display, press and hold the OK button
- Release the OK button as soon as "dEF2" stops flashing
- All the default values will be restored except for the parameters from "P016" to "P022" and from "P078" to "P099" for the current configuration
- Once the operation has been completed, "P010" will reappear on the display



Locking / Unlocking access to programming

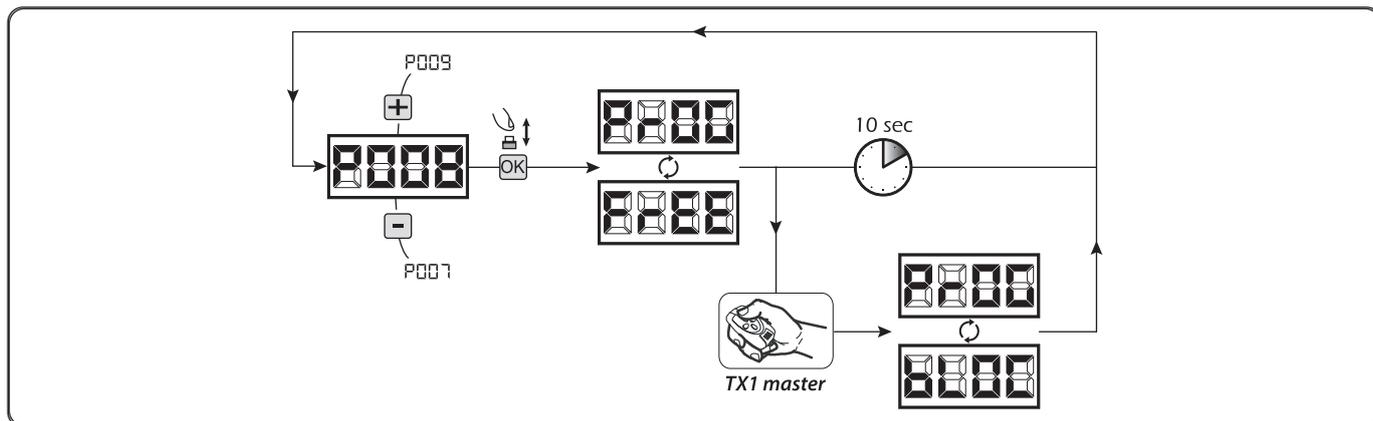


WARNING

By using a remote control with "dip-switch" coding (regardless of the type of remote control already memorised) it is possible to lock and unlock access to the control unit's programming function in order to prevent tampering. Setting the "dip-switch" on the remote control constitutes the lock/unlock code verified by the control unit.

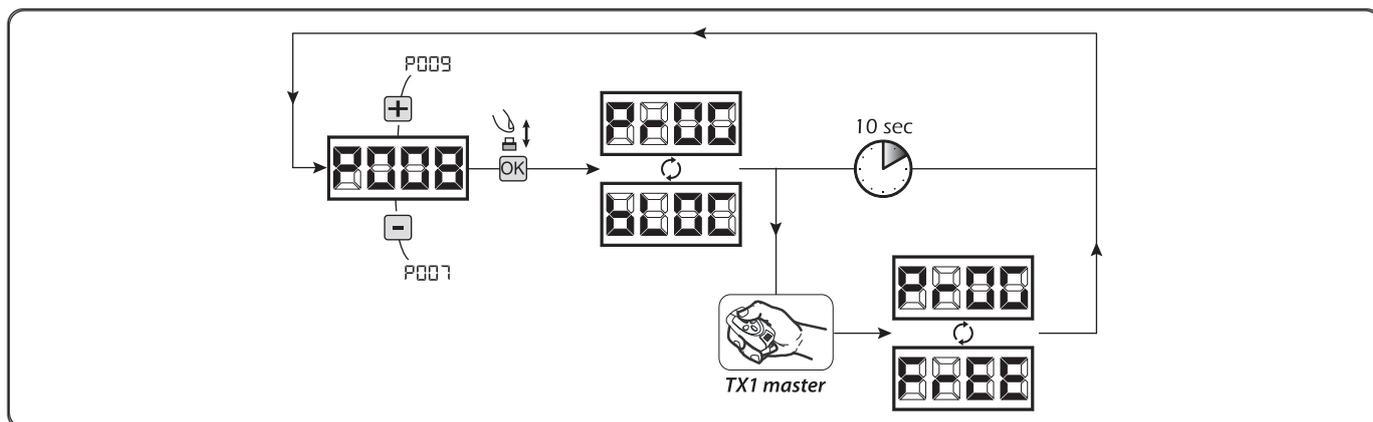
To lock access to programming:

- Scroll the parameters with the \oplus and \ominus buttons until "P008" appears on the display
- Access the parameter by pressing the OK button
- The display will show "Pr 00/Fr EE" in alternating mode to indicate that the control unit is waiting for the transmission of the locking code
- Within ten seconds press CH1 of the "TX Master". The display will show "Pr 00 bL 0C" before returning to the list of parameters
- Access to the programming will now be locked



To unlock access to programming:

- Scroll the parameters with the \oplus and \ominus buttons until "P008" appears on the display
- Access the parameter by pressing the OK button
- The display will show "Pr 00/bL 0C" in alternating mode to indicate that the control unit is waiting for the transmission of the unlocking code
- Within ten seconds press CH1 of the "TX Master". The display will show "Pr 00 Fr EE" before returning to the list of parameters
- Access to the programming will now be unlocked



To unlock access to programming with global reset:

- Scroll the parameters with the \oplus and \ominus buttons until "P008" appears on the display
- Access the parameter by pressing the OK button
- The display will show "PrEG/bLDC" in alternating mode to indicate that the control unit is waiting for the transmission of the unlocking code
- Press the OK button. The display will show "FrEE" flashing
- Press the OK button again and hold it for 5 seconds. (Releasing it interrupts the procedure). The display will show "FrEE" steady followed by "dEF!" before returning to the list of parameters
- Access to the programming will now be unlocked



WARNING

This procedure implies the loss of all memorised settings



WARNING

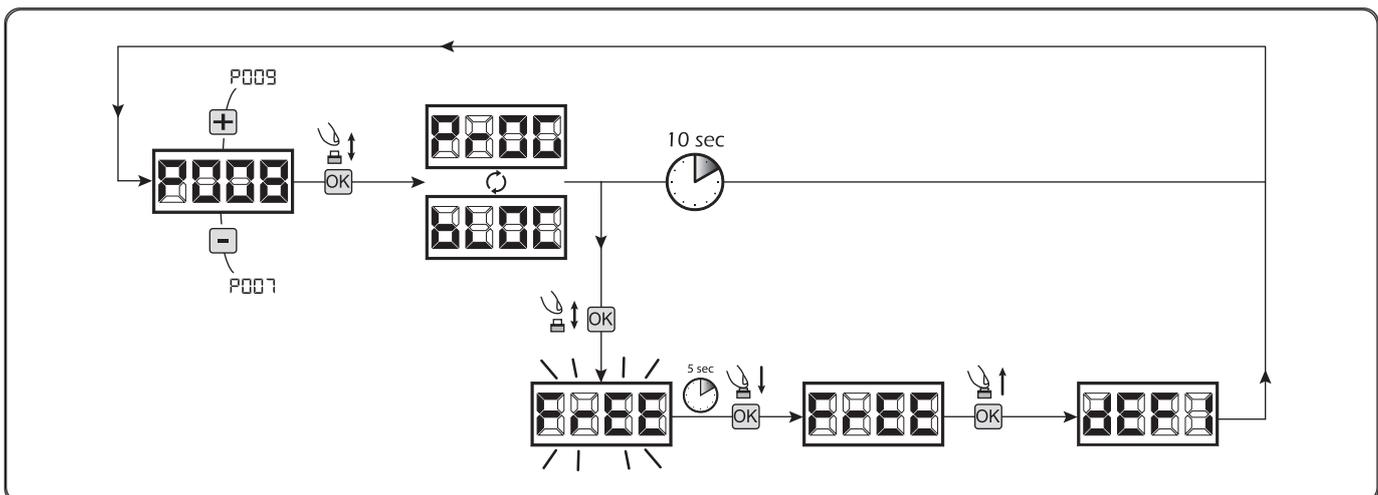
The procedure can be used to unlock the control unit even without knowing the relative unlock code.



WARNING

After performing this type of unlock procedure, the control unit must once again be programmed and all the operating parameters readjusted.

In particular, remember to correctly set the motor configuration parameters ("P028", "P029", "P030"). Moreover, it will be necessary to repeat the impact force measurement to guarantee the system's uniformity



Downloading / Uploading the data memory

To download data to an external memory unit (DOWNLOAD)

- Scroll the parameters with the \oplus and \ominus buttons until "P0 1" appears on the display
- Press the OK button. The display will show "d n L d" flashing
- Press the OK button again and hold it for 5 seconds. (Releasing it before will interrupt the procedure)
- Release the OK button as soon as "d n L d" stops flashing

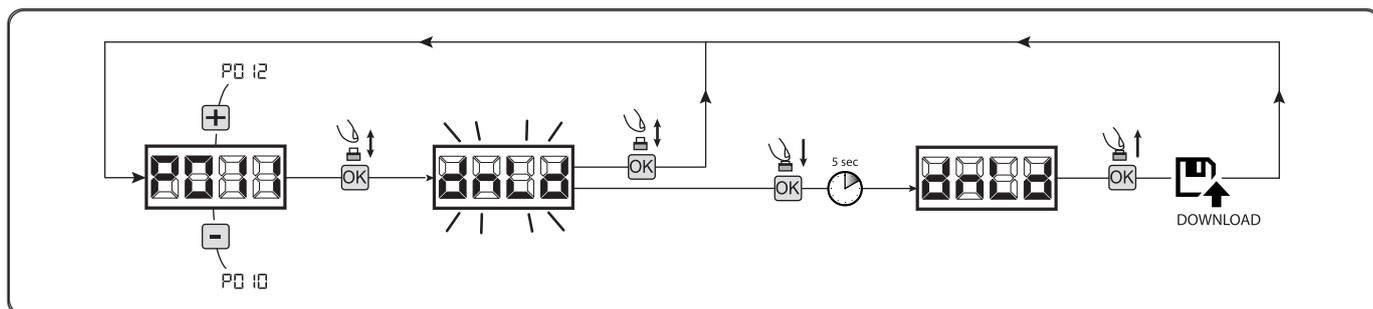
All the control unit settings (TYPE, parameters, remote controls, motor stroke, etc.) will be saved on the external memory unit

- Once the operation has been completed, "P0 1" will reappear on the display



WARNING

If the external memory unit contains data, it will be overwritten during the memory download procedure



To upload data from an external memory unit (UPLOAD)

- Scroll the parameters with the \oplus and \ominus buttons until "P0 12" appears on the display
- Press the OK button. The display will show "U P L d" flashing
- Press the OK button again and hold it for 5 seconds. (Releasing it before will interrupt the procedure)
- Release the OK button as soon as "U P L d" stops flashing

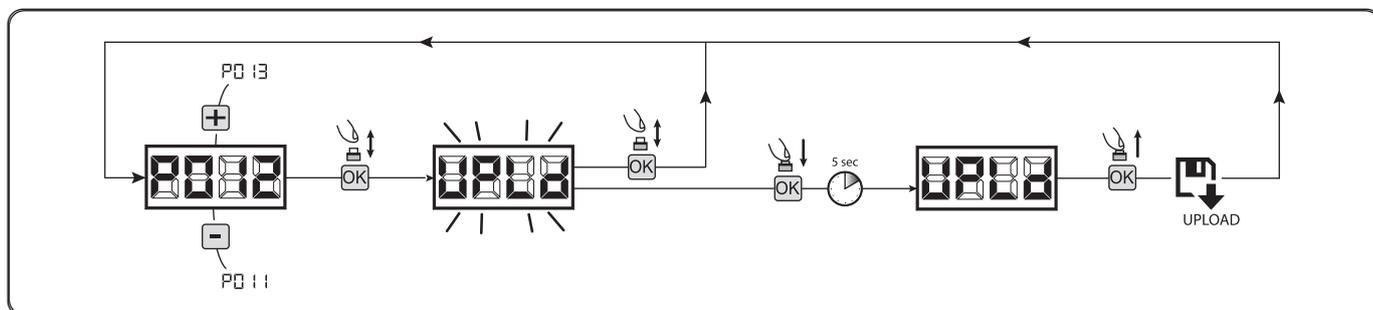
All the settings (TYPE, parameters, remote controls, motor stroke, etc.) contained in the external memory unit will be downloaded to the connected control unit

- Once the operation has been completed, "P0 12" will reappear on the display



WARNING

If there are no external memory units connected or if the connection cable is removed during the data transfer operations, "E r 9" will appear on the display and the control unit will be totally reset. The display will show "E Y P E" flashing
Refer to the instructions of the external memory board to restore the control unit's operation

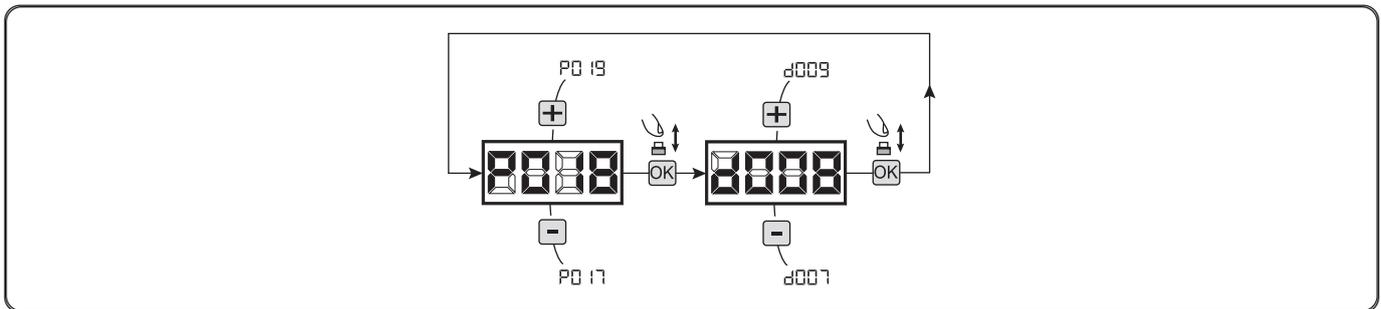


Input configuration

If the installation requires different and/or additional controls with respect to the standard described in the wiring diagrams, each input can be configured for the desired operation (e.g. START, PHOTO, STOP, etc.)

To configure the inputs:

- Scroll the parameters with the \oplus and \ominus buttons until the parameter corresponding to the desired input appears
 - "P0 17" = for INPUT 1
 - "P0 18" = for INPUT 2
 - "P0 19" = for INPUT 3
 - "P0 20" = for INPUT 4
 - "P0 21" = for INPUT 5
 - "P0 22" = for INPUT 6
- Access the parameter (e.g. "P0 18") by pressing the OK button
- Press the \oplus and \ominus buttons to set the value corresponding to the desired operation. See the paragraph) for the full list of settable parameters
- Confirm the choice by pressing the OK button. ("P0 18" will reappear on the display)
- Connect the input that has just been configured



At the end of the programming procedure, press the \oplus and \ominus buttons until the " - - - - " symbol appears. The device will now wait to receive commands for normal operation.

7.3 Restoring the TYPE

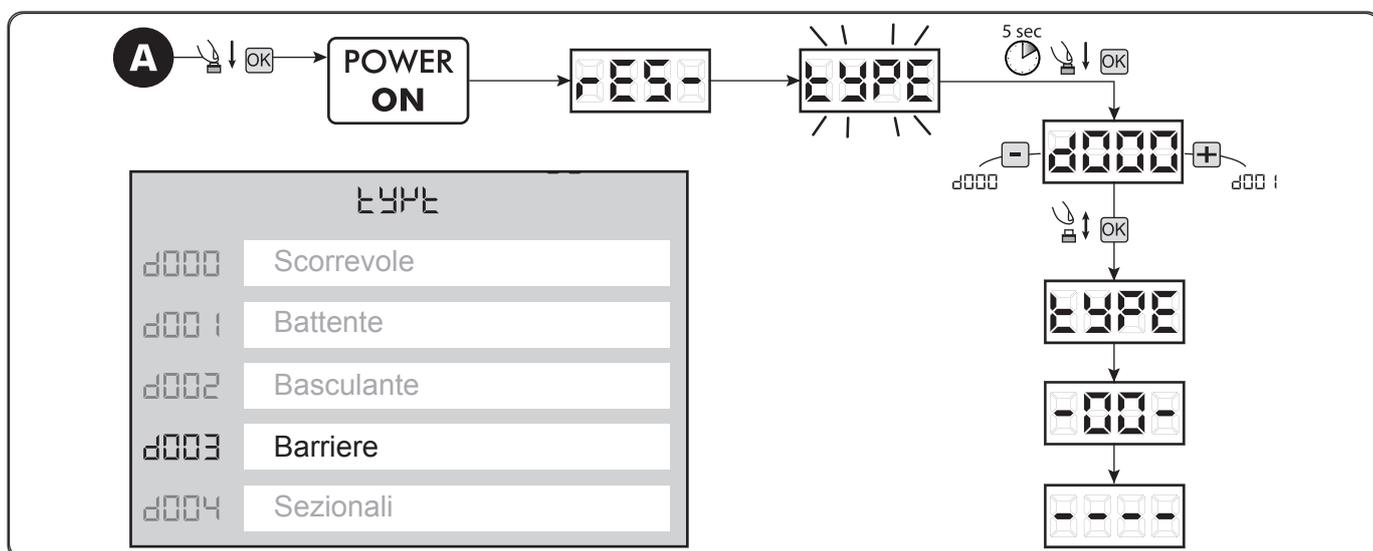
To restore the control unit, proceed as explained below:

- Press and hold the button
 - Power the device. The words "r E S -" and "E Y P E" will flash on the display
 - Press the button and hold it for at least 5 seconds until "d000" appears on the display
 - Press the and buttons and the following items will appear in sequence:
 - "d000" - Sliding
 - "d001" - Hinged
 - "d002" - Tilting
 - "d003" - Barriers
 - "d004" - Sectional
 - Select "d003" (the only one available for **TRAFIK**) and confirm by pressing the button
- At this point, the selection will be saved in the memory and will be reloaded at every future activation
 The words "E Y P E" and " - 00 -" followed by the gate closed symbol " - - - -" will appear



WARNING

Interrupting the reconfiguration procedure before the confirmation stage will imply the loading of the previous control unit configuration without any type of modification



7.4 Programming procedures

Parameter	Procedure	Selectable values
P001	Positioning of motor 1	
P002	Positioning of motor 2	
P003	Motor stroke learning	
P004	Deletion of remote controls	
P005	Remote control learning	
P006	Searching for and deletion of a remote control	
P007	Restoration of the operating parameters	
P008	Programming access lock	
P009	Learning of connected DE@NET devices (currently not used)	
P010	Restoration of the "I/O" (input/output) settings	
P011	Downloading of data to an external memory unit	
P012	Uploading of data from an external memory unit	
P013	Visualisation of the input status and manoeuvre counter	
P014	Not used	
P015	Not used	

8 Parameters

8.1 Input configuration parameters

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P016	INPUT_3 input type selection	000: IN3 type=dry contact 001: IN3 type=constant resistor 8K2	000	
P017	INPUT_1 operation selection	000: NONE (not used) 001: START 002: PED. (pedestrian)	003	
P018	INPUT_2 operation selection	003: OPEN (separate opening) 004: CLOSE (separate closing)	004	
P019	INPUT_3 operation selection	005: OPEN_PM (hold-to-run open) 006: CLOSE_PM (hold-to-run close) 007: ELOCK-IN (electric lock output activation)	008	
P020	INPUT_4 operation selection	008: PHOTO 1 (photocell 1) 009: PHOTO 2 (photocell 2)	011	
P021	INPUT_5 operation selection	010: SAFETY 1 (safety edge 1) 011: STOP (lock) / SAS INPUT (only for NET_EXP) 012: FCA1 (opening limit switch Mot1)	012	
P022	INPUT_6 operation selection	013: FCA2 (opening limit switch Mot2) 014: FCC1 (closing limit switch Mot1) 015: FCC2 (closing limit switch Mot2) 016: SAFETY 2 (safety edge 2) 017: OPEN_INT (only for NET_EXP) 018: OPEN_EXT (only for NET_EXP) 019: AUX_IN (only for NET_EXP) 020: SAFETY INHIBITION	014	
P023	Remote control CHANNEL 1 assigning	000: NONE (not used) 001: START	001	
P024	Remote control CHANNEL 2 assigning	002: PEDESTRIAN	000	
P025	Remote control CHANNEL 3 assigning	003: OPEN (separate opening) 004: CLOSED (separate closing)	000	
P026	Remote control CHANNEL 4 assigning	005: Not used 006: Not used 007: ELOCK-IN (electric lock output activation) 008: AUX_IN (only for NET_EXP) 009: STOP	000	
P027	Selection of the remote control type	000: HCS fix-code 001: HCS rolling-code 002: Dip-switch 003: DART	000	

8.2 Motor configuration parameters

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P028	Selection of the type of motors	004: TRAFIK	004	
P029	Selection of the operating mode with or without encoder	000: motors with encoder 001: motors without encoder	000	
P030	Selection of the number of motors	001: one motor 002: two motors	001	

8.3 Operating parameters

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P031	Adjustment of the motor speed during the slowdown phase on opening	25%tot.....100%tot	025	
P032	Adjustment of the motor speed during the opening movement	25%tot.....100%tot	035	
P033	Adjustment of the motor speed during the closing movement	25%tot.....100%tot	035	
P034	Adjustment of the motor speed during the slowdown phase on closing	25%tot.....100%tot	030	
P035	Adjustment of the slowdown duration on opening	25%tot.....80%tot	050	
P036	Adjustment of the slowdown duration on closing	25%tot.....80%tot	050	
P037	Adjustment of the motor 1 force on opening (if = 100% obstacle detection is disabled)	15%tot.....100%tot	100	
P038	Adjustment of the motor 1 force on closing (if = 100% obstacle detection is disabled)	15%tot.....100%tot	099	
P039	Not used			
P040	Not used			
P041	Adjustment of the automatic closing time (if = 0 automatic closing is disabled)	0sec.....255sec	000	
P042	Adjustment of the automatic pedestrian closing time (if = 0 automatic pedestrian closing is disabled)	0sec.....255sec	000	
P043	Adjustment of the duration of the pedestrian closing movement	5%tot.....100%tot	100	
P044	Adjustment of the pre-flashing time	0sec.....10sec	000	
P045	Not used			
P046	Not used			
P047	Condominium function: disables the opening and closing command inputs during opening and the automatic closing time	000: deactivated 001: active only on opening 002: active on automatic opening and closing	000	
P048	Jolt function: if=0 "jolt deactivated"; if=1 before every opening movement it pushes the motors closed for 1 sec to facilitate the electric lock's disengagement; if>1 it gives a periodic jolting movement to keep the leaves pressed against the closing stops. If closing limit switches are present, the device performs this function only if the limit switches are not activated, for example when there is a decrease in the pressure on the stop	000: "jolt" not active 001: "jolt" active >001: periodic "jolt" (X*1 min) (2.....255)	000	
P049	Selection of the "reversal" mode (during the manoeuvre a command impulse inverts the direction) or "step-by-step" (during the manoeuvre a command impulse stops the movement. The subsequent impulse restarts the movement in the opposite direction).	000: "reversal" 001: "step-by-step"	001	
P050	Operation of the PHOTO1 input: if=0 the photocell is enabled during closing, when the movement starts from the gate stationary mode; if=1 the photocell is always enabled; if=2 the photocell is only enabled during closing. When enabled, the activation of the PHOTO1 input causes the reversal of movement (during closing) and stoppage (during opening), and prevents the start (with gate closed). If=3-4-5, the operation is identical, respectively, to the values 0-1-2 but with the "close immediately" function enabled: in any case, during opening and/or the pause time, when an obstacle is removed the gate ends the opening manoeuvre before automatically closing again after a fixed delay of 2 seconds.	000: photocell enabled in closing mode and with the gate stationary 001: photocell always enabled 002: photocell enabled only during closing 003: like 000 but with "close immediately" enabled 004: like 001 but with "close immediately" enabled 005: like 002 but with "close immediately" enabled	002	

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P051	Operation of the PHOTO2 input : if=0 the photocell is enabled during closing, when the movement starts from the gate stationary mode; if=1 the photocell is always enabled; if=2 the photocell is only enabled during closing. When enabled, the activation of the PHOTO2 input causes the reversal of movement (during closing) and stoppage (during opening), and prevents the start (with gate closed). If=3-4-5, the operation is identical, respectively, to the values 0-1-2 but with the "close immediately" function enabled: in any case, during opening and/or the pause time, when an obstacle is removed the gate ends the opening manoeuvre before automatically closing again after a fixed delay of 2 seconds.	000: photocell enabled in closing mode and with the gate stationary 001: photocell always enabled 002: photocell enabled only during closing 003: like 000 but with "close immediately" enabled 004: like 001 but with "close immediately" enabled 005: like 002 but with "close immediately" enabled	002	
P052	Selection of the operating mode of the warning output : If=0 "warning light" (output always ON when the gate is open, OFF at the end of the closing manoeuvre), If=1 "warning light intermittent" (slow intermittent output during opening and fast during closing, always ON with the gate open, always OFF only at the end of a closing manoeuvre), if>1 "courtesy light" (output ON during every movement, OFF when the motor stops, after the set delay).	000: "warning light steady" 001: "warning light intermittent" >001: "courtesy light" switch-off delay (2sec.....255sec)	000	
P053	Activation of the stop search also during opening : the motors only stop once they reach the stop, also during opening. Warning: During the emergency manoeuvre (<i>RESP</i>), the motor performs the first manoeuvre as an opening movement. Moreover, if there are limit switches, the parameter is forced to 1.	000: stoppage on opening on the memorised point. 001: stoppage on opening at the stop	001	
P054	"Soft start" function: the motors accelerate gradually until they reach the set speed, avoiding abrupt starts.	000: "soft start" not active 001: "soft start" active 002: "extended soft start" active	001	
P055	Adjustment of the reversal duration following the detection of an obstacle during opening (detected by the internal anti-crushing sensor or through the activation of the safety input): if=0 it performs a complete reversal, if>0 it indicates the duration (in sec) of the movement, after the reversal following the detection of an obstacle during the opening manoeuvre.	000: complete reversal after an obstacle >000: duration of the reversal after an obstacle (1sec.....10sec)	003	
P056	Adjustment of the reversal duration following the detection of an obstacle during closing (detected by the internal anti-crushing sensor or through the activation of the safety input): if=0 it performs a complete reversal, if>0 it indicates the duration (in sec) of the movement, after the reversal following the detection of an obstacle during the closing manoeuvre.	000: complete reversal after an obstacle >000: duration of the reversal after an obstacle (1sec.....10sec)	003	
P057	Facilitation of manual unlocking : If≠0, after the detection of the closing or opening stop, motor 1 carries out a brief reversal to release the pressure on it and facilitate manual unlocking. The set value indicates the duration of the reversal. If=0 the function is disabled.	000: unlocking facilitation deactivated >000: unlocking facilitation activated with duration equal to: (1x25ms.....20x25ms)	002	
P058	Adjustment of the opening stop margin : adjusts the duration of the last section of the path during which a potential obstacle is interpreted as a stop, which causes the motor to stop without an ensuing reversal movement. For motors with encoder, the set value indicates the number of rotor revolutions.	1.....255	020	
P059	Adjustment of the closing stop margin : adjusts the duration of the last section of the path during which a potential obstacle is interpreted as a stop, which causes the motor to stop without an ensuing reversal movement. For motors with encoder, the set value indicates the number of rotor revolutions.	1.....255	020	

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P060	Adjustment of the motor force upon arrival at the stop : - If=0, the adjustment is disabled (the value of the force exerted on the stop is calculated automatically) - If≠0 it indicates the value (expressed in % of the max value) of the force exerted on the stop.	0%tot.....100%tot	000	
P061	“Energy saving” function: If=1, after 10sec of inactivity, the control unit switches off the 24V outputs and the display, which will be switched back on after the first command received (recommended use with battery-powered operation and/or solar panel). Warning: with “Energy saving” active the SAS function is not available. Warning: with “Energy saving” active, to power the accessories only the stabilised 24V_ST output must be used.	000: “Energy saving” not active 001: “Energy saving” active	000	
P062	Operation of the electric lock output : If=0 “boost” output for powering the electric lock item 110, if=1 the 24V output is commanded by the ELOCK_IN input in impulsive mode, if=2 the 24V output is commanded by the ELOCK_IN input in step-by-step mode, if=3 the electric brake output for reversible motors, if=4 the 24V output for powering the electric lock through an external relay, if=5 the 24V output for barrier electromagnets, if>5 the 24V output is commanded by the ELOCK_IN input in timer-controlled mode (the set value indicates the switch-off delay in seconds). Warning: to adjust the activation/deactivation times in modes 000 - 004 - 005, use parameter P064.	000: “Boost” output for powering the electric lock item 110 001: Impulsive output 24V == max 5W 002: Step-by-step output 24V == max 5W 003: Electric lock for reversible motors 004: Output for powering the electric locks through the external relay 005: Output for powering the electric magnets for barriers >005: 24V timer-controlled output == max 5W (6sec.....255sec)	005	
P063	Not used			
P064	Adjustment of the electric lock duration If P062=000-004 it adjusts the activation time of the LOCK output. If P062=005 it adjusts the deactivation time of the LOCK output.	0sec.....10sec	002	
P065	Maintenance manoeuvre counter : If=0 it resets the counter and disables the intervention request, if>0 it indicates the number of manoeuvres (x 500) to be completed before the control unit performs a pre-flash of 4 additional seconds to signal the need to carry out a maintenance intervention. E.g.: if P065=050, the number of manoeuvres = 50x500 = 25000 Warning : before setting a new value for the maintenance manoeuvre counter, the latter must be reset by setting P065=0 and only later P065= “new value”.	000: Maintenance request disabled >000: Number of manoeuvres (x 500) for maintenance request (1.....255)	000	
P066	Selection of operating mode for warning light output : If=0 intermittent warning light output; if=1 steady warning light output (for warning lights equipped with internal intermittent circuit)	000: intermittent warning light output 001: steady warning light output	001	
P067	Operation of the SAFETY1 input : if=0 the sensitive edge is always enabled; if=1 the sensitive edge is enabled only during closing; if=2 the sensitive edge is enabled only during closing and before each movement; if=3 the sensitive edge is enabled only during opening; if=4 the sensitive edge is enabled only during opening and before each movement; as for the obstacle detection by the internal anti-crushing sensor, also the activation of the SAFETY1 and SAFETY2 inputs triggers the total or partial reversal depending on the setting made with P055 (duration of reversal on obstacle during opening, and P056 (duration of reversal on obstacle during closing).	000: sensitive edge always enabled 001: sensitive edge enabled only during closing 002: sensitive edge enabled only during closing and before each movement 003: sensitive edge enabled only during opening 004: sensitive edge enabled only during opening and before each movement	001	

Parameter	Parameter description	Selectable values	Default values type 3	Custom values
P068	Operation of the SAFETY2 input : if=0 the sensitive edge is always enabled; if=1 the sensitive edge is enabled only during closing; if=2 the sensitive edge is enabled only during closing and before each movement; if=3 the sensitive edge is enabled only during opening; if=4 the sensitive edge is enabled only during opening and before each movement; as for the obstacle detection by the internal anti-crushing sensor, also the activation of the SAFETY1 and SAFETY2 inputs triggers the total or partial reversal depending on the setting made with P055 (duration of reversal on obstacle during opening, and P056 (duration of reversal on obstacle during closing).	000: sensitive edge always enabled 001: sensitive edge enabled only during closing 002: sensitive edge enabled only during closing and before each movement 003: sensitive edge enabled only during opening 004: sensitive edge enabled only during opening and before each movement	001	
P069	Delay on limit switch detection : The motor is stopped after 1,5 seconds from the detection of the limit switch. If, during this delay, the stop is detected, the motor is stopped immediately.	000: limit switch delay disabled 001: limit switch delay enabled	000	
P070	Adjustment of the initial surge duration Warning : if soft start is activated, the initial surge is deactivated regardless of the value of P070.	000: initial surge deactivated (performs a very short, almost imperceptible surge) 004: adjusts the initial surge duration up to 1,5 sec (X*6 ms)	000	
P071	Safety devices autotest : if=0 the 24V ==output for safety devices with autotest (switches off the output and verifies the opening of the contact before each manoeuvre). Warning: to function in autotest mode, all the devices must be connected to the 24V_ST stabilised output (1-2), and be wired and aligned before the learning of the stroke (P003).	000: mains power supply (safety devices autotest disabled) 001: safety devices autotest enabled	000	
P072	Activation of the SAS function (only for NET_EXP): the SAS output is connected to a STOP/SAS INPUT input of a second control unit, triggering the "bank door" operating mode (opening of the second door is disabled as long as the first door is not fully closed). If this parameter is enabled following a reset, it performs an automatic RESP during which the SAS output does not activate. If limit switches are present and are crushed after a reset, the RESP is not carried out. Warning: if both leaves are manually unlocked and shifted to the closing position, the interlock condition is created. It will then be necessary to manually close at least one of the two leaves.	000: SAS function not active 001: SAS function active	000	
P073	Forced hold-to-run : by activating this function, all inputs configured as OPEN and CLOSE also become OPEN UP and CLOSE UP automatically is activated and kept activated if there is a safety device (photocell and/or edge) occupied. This function, therefore, can be used to command the automation even if the safety devices are faulty. If the input is no longer kept activated, the automation will return to the automatic operating mode. In case of safety devices configured as SAFETY 1 or SAFETY 2, this function is not compatible with values 001 and 003 of parameters P067 and P068. For safety reasons, we suggest NOT using this function if there are clocks connected to inputs configured as OPEN or CLOSE.	000: function deactivated. 001: function activated (transition to UP automatic with safety devices occupied/faulty if the OPEN/CLOSE controls are maintained)	000	
P074	Not used		↗	
P074	Not used		↗	
P076	Not used		↗	
P077	Not used		↗	
P078 - - - P099	Configuration parameters dedicated to the expansion board NET_EXP (for a detailed description of the parameters, refer to the instruction manual).			

9 Maintenance

9.1 Testing

Testing is an essential operation for verifying whether the system was installed correctly. DEA System summarises the correct testing procedure for the entire automation in 4 simple steps:

- Check that all the instructions described in paragraph 1, "SUMMARY OF WARNINGS", are rigorously observed;
- Run opening and closing tests of the automation while verifying that the movement corresponds to that specified. In this regard, we recommend running several tests to assess any mounting or adjustment defects;
- Verify that all the safety devices connected to the system work properly;
- Measure the impact force in accordance with the provisions of the EN12445 standard until you find the adjustment that ensures conformity to the limits stated in the EN12453 standard.

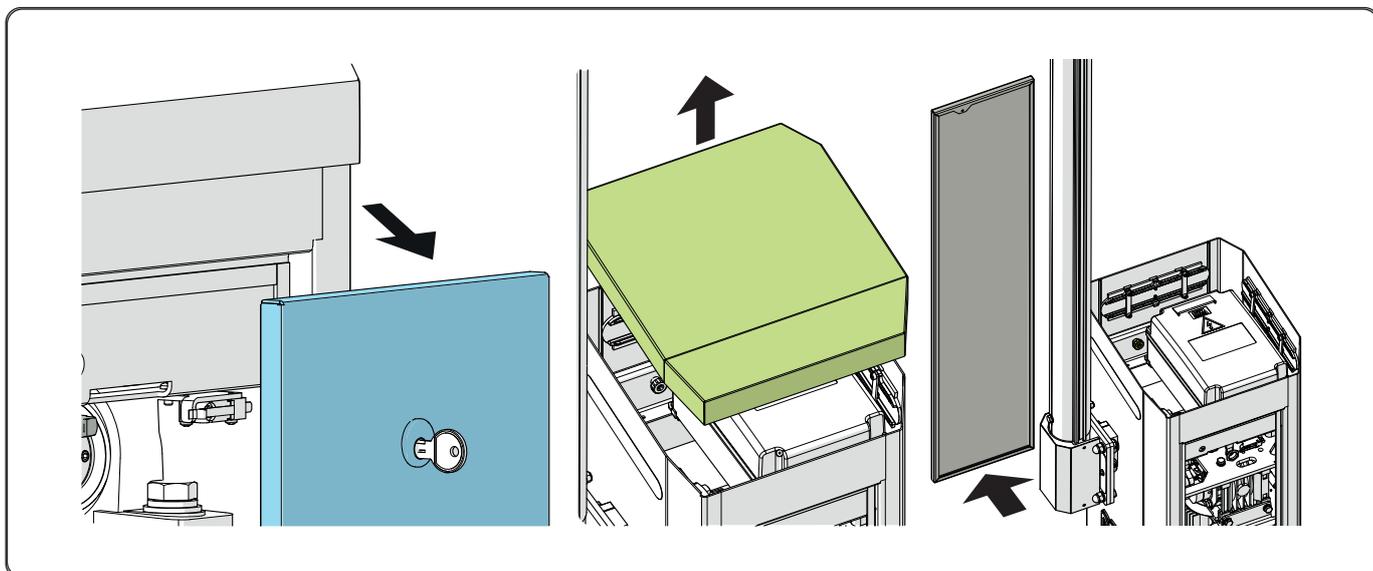
9.2 Routine maintenance

Frequency	Intervention to be carried out
Every 6 months	Check the condition of the barrier structure
Every 6 months	Check the boom's tightness
Every 6 months	Check the condition of the spring and of the relative anchoring elements
Every 6 months	Check that the boom limit switch lies horizontally/vertically
Every 6 months	Verify the operation of the control unit and of the safety devices
Every 6 months	Clean the external surfaces
Every year	Check the boom's balancing
Every 6 months	Greasing of the bearings

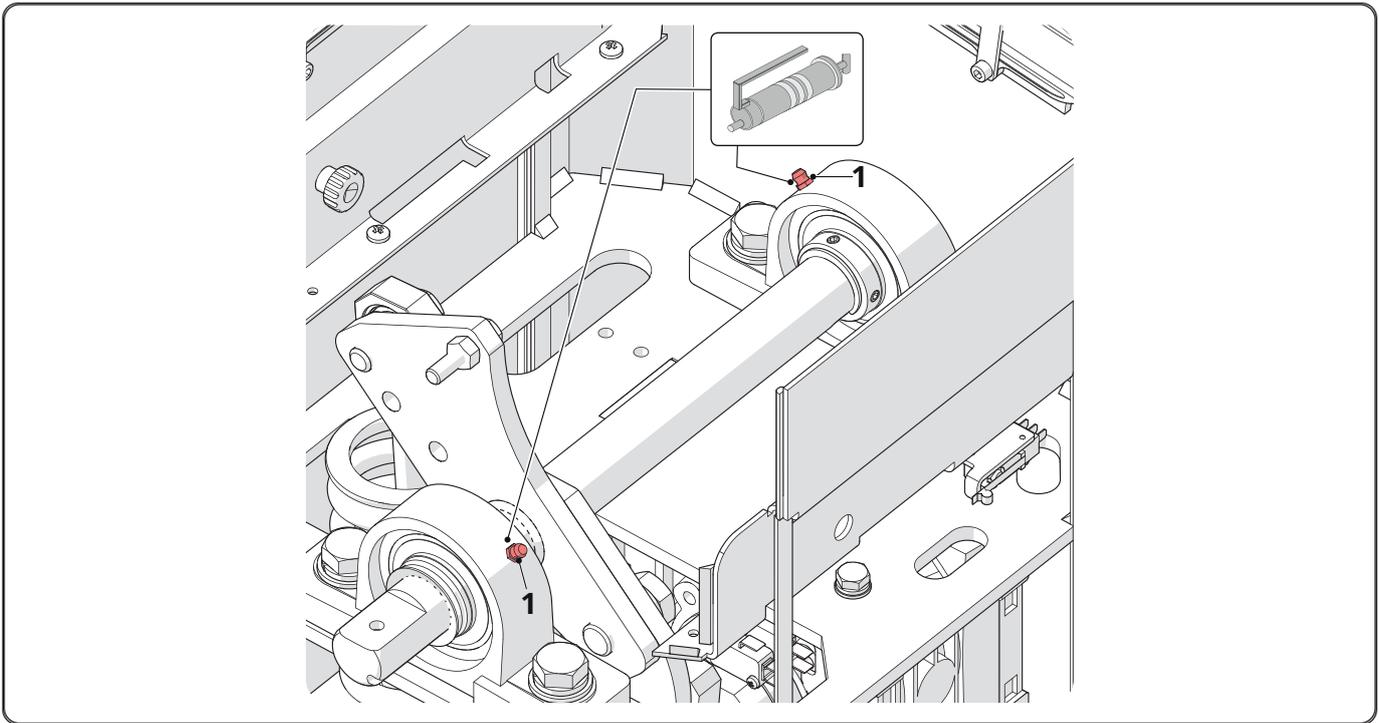
Greasing of the bearings

To proceed with the lubrication:

- Remove the front panel, the cover and the rear panel



- Lubricate the system, through the appropriate grease nipples (1), with two or three grease pumping actions



9.3 Fault search

Description	Possible solution
After activating the opening command, the barrier does not move and the automation's electric motor does not start.	The device is not correctly powered; check the connections, the fuses and the conditions of the power cable, and replace/repair these elements, if necessary.
After activating the opening command, the motor starts but the boom fails to move.	Check the electronic equipment for adjusting the force.
The barrier is noisy or struggles to start.	Check the boom's balancing.

9.4 Status messages

Message	Description
- - - -	Gate closed
- ' ' -	Gate open
O P E n	Opening under way
C L O S	Closing under way
S t E P	Control unit waiting for commands after a start impulse with step-by-step operation
S t O P	The stop input has intervened or an obstacle was detected with limited reversal duration ($P055 > 0$ or $P056 > 0$)
L L	Board in BOOT MODE. Indicates that the firmware is corrupted or is being updated. To restore the firmware, use the DEAINSTALLER app and make sure that the NET-NODE is connected to the correct port. Warning: when the firmware is updated, the board loses all the data (parameters and remote controls) present in the memory. Make sure that the memory has been backed-up if the data must be restored after the update
r E S P	Position reset under way due to the following causes: - The control unit has just been switched back on after a power shortage - The gate has exceeded the maximum allowed number (80) of reversals without ever reaching the closing stop - The gate has exceeded the maximum allowed number (15) of consecutive reversals of the anti-crushing device The search in slowdown has been started for the opening limit switch first and then the closing limit switch

9.5 Error messages

Message	Description	Possible solutions
<i>E r r P</i>	Position error: the position reset procedure was not successful. The control unit lies in wait for commands.	<p>Check that there are no particular friction points and/or obstacles during along the path</p> <p>Give a start impulse to start the position reset procedure</p> <p>Correct any set values for the motor force and speed</p>
<i>b L O C</i> <i>U P L O A D</i>	An attempt to programme the board is being carried out when a NET-NODE device is connected.	Disconnect the power supply, disconnect the NET-NODE of the communication port and restore the power supply
<i>E r r 3</i>	Photocells and/or safety devices activated or faulty.	Verify the correct operation of all the safety devices and/or photocells installed
<i>E r r 4</i>	Possible fault in the control unit's power circuit.	Disconnect and reconnect the power supply. Give a start impulse: if the signal is repeated, replace the control unit
<i>E r r 5</i>	Motor stroke time-out: the motor(s) has/have exceeded their maximum work time (4 minutes) without ever stopping.	<p>Give a start impulse to start the position reset manoeuvre</p> <p>Verify that the manoeuvre completes correctly</p>
<i>E r r 6</i>	Obstacle detection time-out: with the anti-crushing sensor disabled, an obstacle was nonetheless detected that has been preventing the leaf's movement for more than 10 seconds.	<p>Check that there are no particular friction points and/or obstacles during along the path</p> <p>Give a start impulse to start the position reset manoeuvre</p> <p>Verify that the manoeuvre completes correctly</p>
<i>E r r 7</i>	Movement of the motors not detected.	<p>Verify the correct connection of the motors and of the relative encoders</p> <p>Verify the correct positioning of jumpers J5 and J9 as indicated in the wiring diagram</p> <p>If the signal is repeated, replace the control unit</p>
<i>E r r 9</i>	Communication with external memory board (also NET_EXP) absent/interrupted.	<p>Check that the connection cable of the external memory board is properly connected</p> <p>A data transfer operation (DOWNLOAD/UPLOAD) is being carried out: make sure that it is not interrupted (e.g. by disconnecting the board before the end of the operation)</p> <p>Warning: the interruption of an UPLOAD also implies a total RESET of the control unit.</p>
<i>E r 10</i> <i>E r 11</i>	Possible fault/overheating of the control unit's power circuit.	Disconnect the power supply for a few minutes then restore it. Give a start impulse: if the signal is repeated, replace the control unit
<i>E r 12</i>	Possible fault in the control unit's power circuit or in the encoder circuit.	<p>Verify the wiring of the encoder and of the motor. Disconnect and reconnect the power supply. Give a start impulse: if the signal is repeated, perform the following checks</p> <ul style="list-style-type: none"> - Enter "<i>P 0 0 3</i>" and move the gate with the "⊕" and "⊖" buttons - if the gate moves at maximum speed and the display shows "<i>E r r 7</i>", replace the motor's encoder board - If the motor remains stationary, replace the control unit
<i>E r 15</i>	The sensible adjustment parameters have been modified via the DEAIstaller app without having carried out the motor stroke learning procedure at the end of the operation.	Perform learning of the motor stroke " <i>P 0 0 3</i> " before carrying out any other operation
<i>E r B 1</i>	NET-NODE connected to the wrong communication port	Connect the NET-NODE to the correct port according to the indications of the control unit's wiring diagram

10 Disposal

TRAFIK is made up of various types of materials, some of which can be recycled (electrical cables, plastic, aluminium, etc.), while others must be disposed of (electronic boards and components).

Proceed as follows:

- Disconnect the automation from the mains power supply and unload the spring completely
- Disconnect and dismantle all the connected accessories. Perform the procedure described in the paragraph in reverse order
- Remove the electronic components
- Sort and dispose of the various materials by rigorously observing the regulations in force in the countries of sale

In accordance with Directive (EU) 2002/96/EC on waste electrical and electronic equipment (WEEE), this electrical product must not be disposed of together with mixed urban waste. The product must be disposed of by delivering it to a local waste collection facility for its appropriate recycling.



BATCH

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move as you like

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