

WL1024C



Integrated arm with anti-shear protection and mechanical limit stop on closure

ON2



TS



Built-in control unit with provision for battery housing

The kit contains:

WL1024C 1 electromechanical gear motor, surface mounted, with built-in control unit and OXI plug-in receiver.
ON2 1 transmitter 433.92 MHz, 2 channels.
TS 1 signboard.

For swing gates with leaves up to 1.8 m.

Especially suited to gates in wood or PVC.
 Irreversible electromechanical gear motor at 24 Vdc, with articulated arm, magnetic encoder and Nice BlueBUS technology.

Compatible for operation with Solemyo and Opera systems.

Ultra compact: ideal for pedestrian gates, recommended for small posts (width 10 cm).

Safe: thanks to the irreversible motor and anti-shear arm with built-in mechanical stop on closure (with installation of entire arm).

Practical: the articulated arm enables installation in specific conditions, such as in the presence of small walls or obstacles adjacent to the post.

Quick: no waiting in front of the gate, just 7 seconds to open or close (in optimal installation conditions, with reduced arm and 90° opening).

Convenient: incorporable flashing Led indicator, with courtesy light function (WLT, optional); rapid motor release for manual movement of the gate.

Control unit with BlueBUS technology:

- simple programming;
- self-learning of opening and closing limit positions;
- automatic fault diagnostics;
- programming of pause time;
- pedestrian pass door;
- deceleration on opening and closing;
- provision for connection of latest generation resistive sensitive edges.

No black out: operation in the event of a power failure by means of optional batteries (PS424) housed inside the motor.

Code	Description	Pack/pallet	Price £
WALKY1024KCE	Kit for swing gates with leaves up to 1.8 m, 24 Vdc, surface mounted	18	530.00

N.B. The content of the package may vary: consult the retailer.

Technical specifications

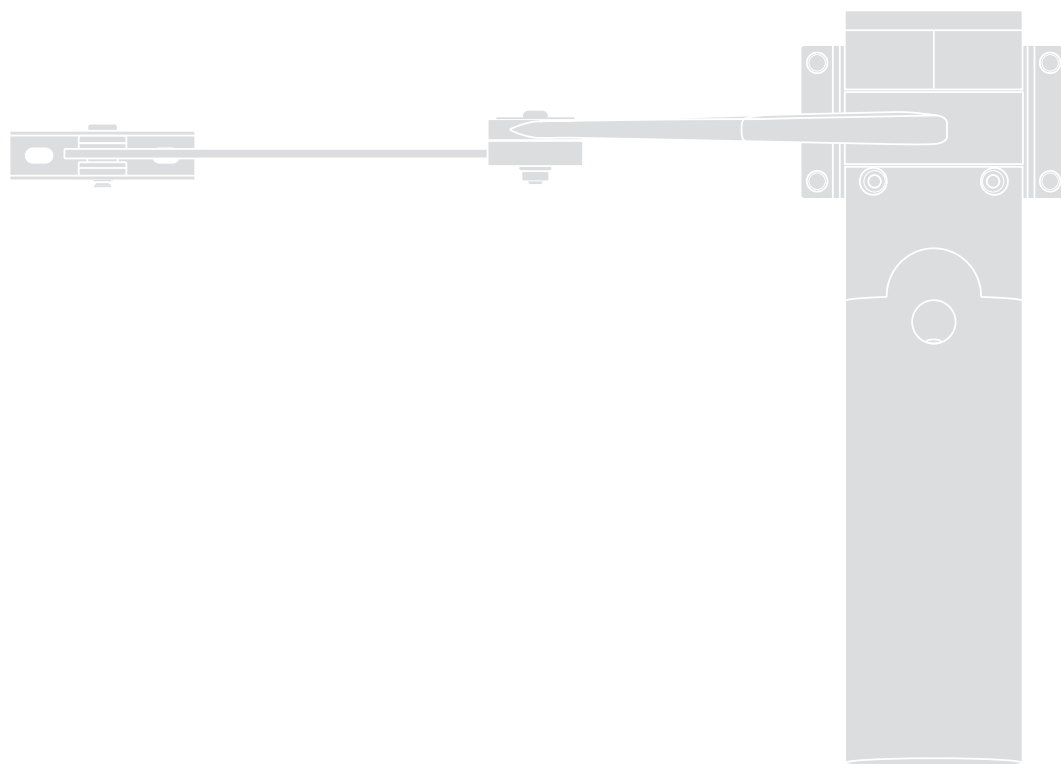
Code	WL1024C
Electrical data	
Power supply (Vac 50 Hz)	230
Power supply (Vdc)	-
Absorption (A)	0.8
Power (W)	120
Built-in capacitor (µF)	-
Performance data	
Speed (Rpm)	1.7 - 2.5
Torque (Nm)	100
Work cycle (cycles/hour)	50
Dimensional and general data	
Protection level (IP)	44
Working temp. (°C Min/Max)	-20° ÷ +50°
Dimensions (mm)	90x125x385 h
Weight (kg)	4.8

WALKY

WL1024
WL1024C



Swing gate opener



EN - Instructions and warnings for installation and use

IT - Istruzioni ed avvertenze per l'installazione e l'uso

FR - Instructions et avertissements pour l'installation et l'utilisation

ES - Instrucciones y advertencias para la instalación y el uso

DE - Installierungs-und Gebrauchsanleitungen und Hinweise

PL - Instrukcje i ostrzeżenia do instalacji i użytkowania

NL - Aanwijzingen en aanbevelingen voor installatie en gebruik

Nice

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1 WARNINGS AND GENERAL PRECAUTIONS

1.1 - Safety warnings

- **IMPORTANT!** – This manual contains important instructions and warnings regarding safety. Incorrect installation may cause serious injury. Before commencing work, all sections of the manual must be read carefully. If in any doubt, suspend installation and call the Nice Support Service for clarification.
- **IMPORTANT!** – This manual contains important instructions. Keep it for future maintenance work and disposal of the product.
- **IMPORTANT!** – Under the latest European legislation, automatic door and gate installations must be compliant with the standards specified in Directive 2006/42/EC (formerly 98/37/EC) (the Machinery Directive) and the standards EN 12445, EN 12453, EN 12635 and EN 13241-1 in particular, which enable conformity of the automated functionality to be declared. **In the light of the above, all work involving installation, connection, testing and maintenance of the product must be carried out exclusively by qualified and competent technicians!**

1.2 - Warnings for installation

- Before commencing the installation, check if the product is suitable for the desired type of use (see "Usage limitation" paragraph 3.2 and the "Product technical specifications"). If it is not suitable, DO NOT continue with the installation.
- **All installation and maintenance work must be carried out with the automation system disconnected from the electricity supply.** If the power disconnection device cannot be seen from where the automation system is positioned, then before starting work a notice must be attached to the disconnection device bearing the words "CAUTION! MAINTENANCE IN PROGRESS".
- The Control unit must be connected to an electricity supply line equipped with protective earthing.
- Handle the product with care during installation, taking care to avoid crushing, denting or dropping it, or contact with liquids of any kind. Keep the product away from sources of heat and naked flames. Failure to observe the above can damage the product, and increase the risk of danger or malfunction. Should this occur, suspend installation work immediately and contact the Nice Support Service.
- Do not modify any part of the product. Prohibited modifications can only lead to malfunctions. The manufacturer declines all responsibility for damage resulting from unauthorized changes made to the product.
- If the gate or door being automated has a pedestrian gate, then the system must include a control device that will inhibit the operation of the motor when the pedestrian gate is open.
- The products packaging material must be disposed of in full compliance with local regulations.

1.3 - Warnings for use

- The product is not intended for use by persons, including children, with limited physical, sensory or mental capacities, or who lack experience or knowledge, unless supervised or trained in the use of the product by a person responsible for their safety.
- Any children near the automation system must be kept under supervision to ensure that they do not play with it.
- Do not allow children to play with the fixed control devices. Keep remote control devices out of the reach of children.

2 PRODUCT DESCRIPTION AND INTENDED USE

The devices comprising this product are designed to automate a gate or door with one or two leaves. **IMPORTANT!** – Any other use apart from that described herein, including in different environmental conditions from those described in this manual is to be considered improper use and is not permitted!

The principal component of the automation system comprises one or two electric gearmotors (according to the number of leaves to be automated), each equipped with a direct current motor and epicyclic reduction gear. One of the gearmotors (mod. WL1024C) has a control unit that controls its operation. The Control unit consists of a board with a radio receiver for receiving the commands sent by the transmitter.

The control unit is designed for connection to several devices belonging to the Opera system, the Bluebus system and the Solemyo solar powered system. If it is mains powered, it can house a back-up battery (mod. PS424, optional accessory) which in the event of a power cut (electricity black-out) guarantees that the automated device will perform certain manoeuvres in the hours that follow.

In the event of a power cut, the gate leaves can be moved by releasing the gearmotor with the dedicated key; to perform the manoeuvre manually please see chapter 3.8.

Other available accessories include the receivers designed with "SM" connectors (SMXI, OXI, etc.).

The gearmotor with control unit (mod. WL1024C) is designed to accommodate the installation of the multi-purpose lamp mod. WLT (see chapter 3.5), which can operate as a flashing emergency light or courtesy light, depending on the control unit programming. In addition, it can be used as a twilight by activating a built-in light sensor; please refer to the relevant instruction manual for specifications.

3 INSTALLATION

3.1 - Pre-installation checks

Before going ahead with the installation, check the integrity of the product components, and ensure the model chosen is suitable for its intended use and for the environment in which it is to be installed.

- Check that all the material to be used is in excellent condition and suitable for its intended use.
- Check that the ground-mounted mechanical stops are present both when opening and closing the automation system.
- Check that the mechanical structure of the gate is suitable for the installation of automation and compliant with locally applicable regulations (if necessary, refer to the label on the gate). This product cannot be used to automate a gate which is not already in good, safe working order, neither can it fix faults caused by incorrect installation or poor maintenance of the gate.
- Check that the operating conditions of the devices are compatible with the usage limitation declared (see paragraph 3.2).
- Move the gate leaves manually in both directions and ensure that the resistance to movement is constant at all points of travel (there should not be any points where more force or less is required).
- Bring the gate leaves manually into a position at random, then let go and check that they remain stationary.
- Check that the gearmotor fixing zone is compatible with its overall dimensions (fig. 1).
- Check that the place where the gearmotor is to be installed allows enough space for its arm to execute its full range of movement.
- Check that there is sufficient room around the gearmotor for it to be released manually when required.
- Ensure that the surfaces on which the various devices are to be installed are strong and capable of ensuring a firm hold.
- Ensure that each device is installed in a position which is protected and does not expose it to accidental impacts.
- Ensure that all the electrical cables to be used are the type listed in Table 1.

3.2 - Usage limitation

Before installing the gearmotor, check that its data complies with the usage limitation specified below and falls within the limits stated in the chapter entitled "Product technical specifications":

With FULL LENGTH motor arm (as shipped from the factory):

- maximum width of leaf: 1.60 m (= maximum weight of leaf: 110 kg)
- maximum height of leaf: 2 m

With SHORTENED motor arm (cut by the installer):

- maximum width of leaf: 1.60 m (= maximum weight of leaf: 100 kg)
- maximum height of leaf: 2 m

• Check to run: apply to Graph 1 the weight and width of the leaf; plot two lines from these points and check that they intersect in one of the two grey areas of the graph. **Important!** - If the lines cross in the white area, this product cannot be used to automate this particular gate.

• To enable the installation of the gearmotor, the **minimum width** of the column should be 80 mm.

• The gearmotor arm must be positioned in the **upper part** of the gate leaf.

IMPORTANT! - The gearmotor must not be mounted upside down, i.e. with the arm pointing downwards.

• The arms fastening bracket must be fitted at one of the strongest parts of the leaf (e.g. the frame), in order to ensure a firm and safe hold;

• Check **distance "E"** (fig. 7):

- If **distance "E"** falls in the range 80 mm (minimum) to 299 mm (maximum), the gearmotor arm will need to be shortened. In such conditions, the leaf will be able to open by up to 90°.

- If **distance "E"** is 300 mm or more, there is no need to shorten the gearmotor arm. In such conditions, the leaf will be able to open by up to 110°.

3.3 - Preparatory work prior to installation

Fig. 2 illustrates an example of an automated system, achieved using Nice components:

- a - Gearmotor with control unit mod. WL1024C
- b - Gearmotor without control unit mod. WL1024
- c - Multi-purpose lamp mod. WLT (to be installed on the gearmotor with control unit mod. WL1024C); see chapter 3.5 and the lamps own instruction manual
- d - Pair of photocells mod. MOFB
- e - Digital keyboard (mod. MOTB) - Transponder reader (mod. MOMB) - Key selector (mod. MOSE)
- f - Pair of photocell posts
- g - Opening and Closing mechanical stops
- h - Electrical lock

These components are positioned according to a typical standard layout. Referring to fig. 2, establish the approximate position in which to install each component required for the system. **Important** – Before commencing installation, prepare the electrical cables necessary for your system, referring to fig. 2a and to "Table 1 - Technical characteristics of the electrical cables".

Important – While laying the tubes for the electrical cables, consider that due to the possible build-up of water in the aqueducts, the connection tubes could cause condensation to form inside the control unit and damage the electronic circuits.

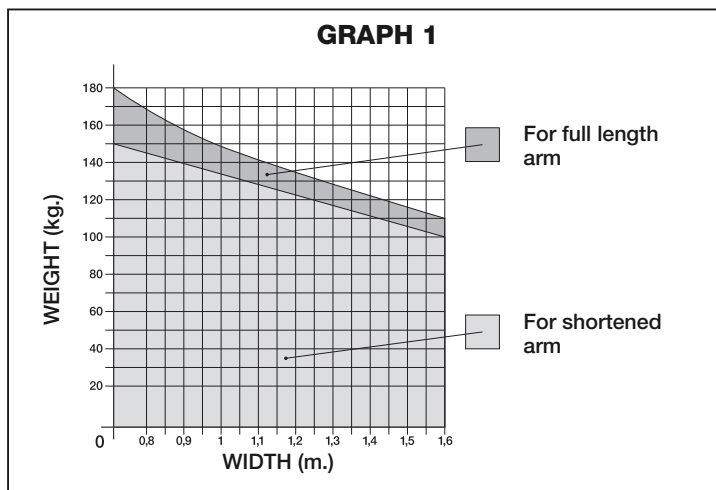


TABLE 1 - Technical characteristics of the electrical cables

Connection	Type of cable	Maximum permitted length
A: POWER cable	One 3 x 1.5 mm ² cable	30 m (note 1)
B: ELECTRICAL LOCK cable	One 2 x 1 mm ² cable	6 m
C: BLUEBUS DEVICES cable	One 2 x 0.5 mm ² cable	20 m (note 2)
D: KEY SELECTOR cable	Two 2 x 0.5 mm ² cable (note 3)	50 m
E: GEARMOTOR POWER cable	One 3 x 1.5 mm ² cable	6 m
EXTERNAL AERIAL cable (optional)	One type RG58 screened cable	20 m (recommended less than 5 m)

Note 1 – If the power cable is more than 30 m long, you will need to use a cable with a wider cross-section (3 x 2.5 mm²) and you will have to install protective earthing near the automation system.

Note 2 – If the Bluebus cable is more than 20 m long, and up to a maximum of 40 m long, you will need to use a cable with a wider cross-section (2 x 1 mm²).

Note 3 – These 2 cables can be replaced with 1 single 4 x 0.5 mm² cable.

IMPORTANT! – The cables used must be suitable for the type of environment where they are installed.

3.4 - Installation of the gearmotor mod. WL1024C - WL1024

WARNINGS

- Failure to install correctly can cause serious injury to the person carrying out the work and those using the system.
- Before starting to assemble the automation system, carry out the preliminary checks described in paragraphs 3.1 and 3.2.
- The gearmotor arm can be shortened from the standard length provided. It needs to be reduced in length if there is a fixed obstacle close to the gearmotor (such as a wall or post) impeding the full range of movement of the arm. In order to establish whether the arm needs to be shortened, it is therefore necessary to follow the procedure in 3.4.1 before starting the installation.

Assemble the component parts of the motor arm, referring to **fig. 3**. Do not insert the Benzing retaining ring at this stage (**fig. 4**). **N.B.!** - The curved arm must be positioned with the curved part towards the gate leaf, as shown in **fig. 5**.

3.4.1 - Establishing the length of the gearmotor arm

01. Determine the VERTICAL position of the gearmotor: draw a horizontal line on the column at the same height at which the fastening bracket for the arm will be located on the leaf once the installation is complete.

02. Determine the HORIZONTAL position of the gearmotor:

a) Determine the maximum opening position of the leaf: determine the maximum opening angle (maximum 110°).

b) Measure distance B and determine distance A:

1 - Measure **distance B** on the column (**fig. 5**). This is the distance between the fulcrum of rotation of the gate leaf and the surface of the column where the rear bracket of the gearmotor will be fixed.

2 - On **Graph 2A**, mark **distance B**, as just measured, and trace a vertical line from this point until it intersects with the **area** which includes the angle value measured in point **a**.

3 - At the points where the vertical line intersects with the area, trace horizontal lines across column "A", to determine the values which can be used for **distance A**. Then choose a value for A from this range, one of the smaller values if possible.

4 - Mark **distance A** on the column and trace a vertical line corresponding to it (**fig. 6**).

5 - If there is a wall or other immovable obstacle near the vertical line, measure the distance between this line and the obstacle (**fig. 7**): this is **distance E**.

IMPORTANT!

• If **distance E** falls in the range 80 mm (minimum) to 299 mm (maximum), continue the installation with procedure 3.4.3.

• If **distance E** is 300 mm or more, continue the installation with procedure 3.4.2.

5 - Release the gearmotor with the dedicated key (see chapter 3.8).

3.4.2 - Installation of a gearmotor with a STANDARD LENGTH ARM

Important! - This part of the installation can only be carried out after 3.4.1 has been completed.

01. Affix the gearmotor to the column (fig. 9):

a) Hold the gearmotor against the column(*) so that its vertical centre line corresponds with the vertical line traced earlier (distance A), and its arm corresponds with the horizontal line traced during procedure 3.4.1. Now ensure that the gearmotor is completely levelled: if off-axis, it can cause the automation to malfunction.

(*) **Note** - If the column surface is between 80 and 135 mm wide, then before continuing with the installation, the gearmotor's rear fastening bracket will need to be rotated by 90°. To rotate the bracket, refer to **fig. 8**.

b) Mark the fastening points, drill the required holes in the surface of the column and insert the plugs; now fix the gearmotor in place using suitable screws and washers.

02. Affix the gearmotor arm to the gate leaf (fig. 9):

a) Bring the gate leaf into the fully Closed position;

b) Open out the gearmotor arm **to its maximum extension**;

c) Bring the arm up to the gate leaf and hold the fastening bracket against the leaf.

d) Ensure that the gearmotor arm is levelled properly, and use a pencil to mark **the centre of the slot profile** on the bracket, to enable fine adjustments to be made to the closure alignment of the leaf in future (see paragraph 3.7).

e) Holding the bracket against the gate leaf with one hand, attempt to open and close the gate completely, up to the respective mechanical stops.

Important! - If the movement of the arm is hampered during the test by a wall or other fixed object, stop working on this procedure and go to procedure 3.4.3.

f) Drill holes in the gate leaf at the points marked and remove the bracket from the arm and affix it to the gate leaf with suitable screws.

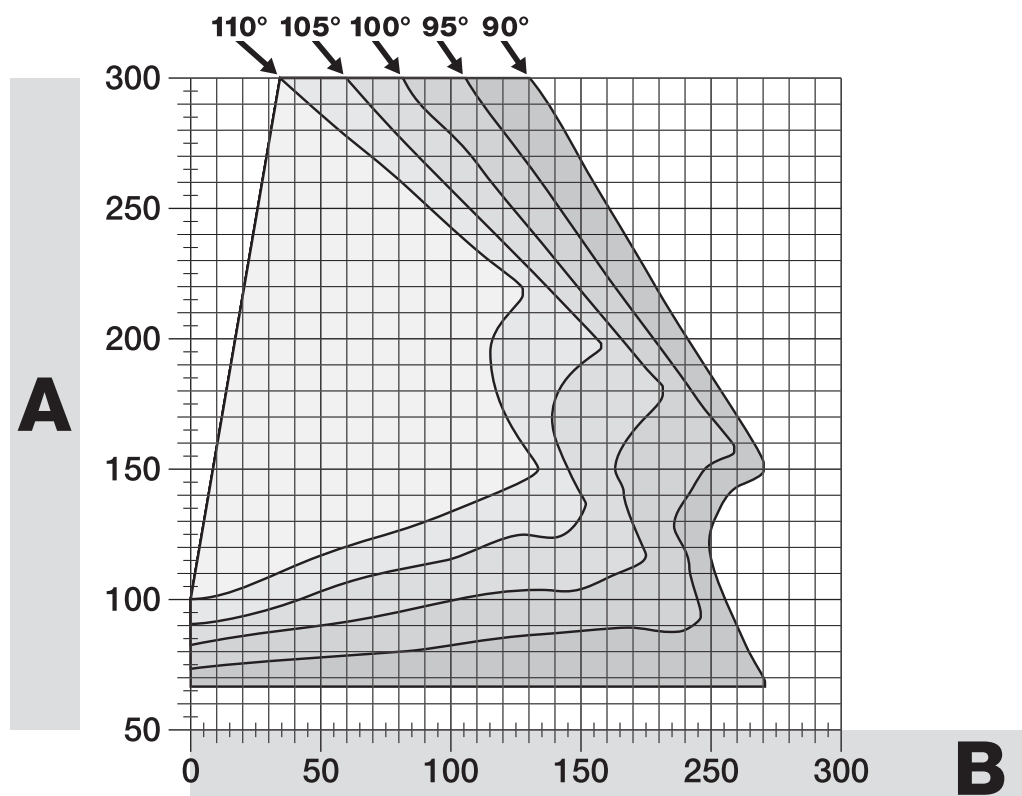
g) Attach the arm to the bracket, inserting the pin and the Benzing retaining ring. **Important** - Check that the bracket and the arm are completely level. Loosen the screws of the bracket and adjust as required to ensure level.

h) Fix the end stops to the ground permanently, in the position determined at the start of the procedure. **Important!** - Check that the gate leaf closes completely against the end stop. To make fine adjustments to the closure alignment, refer to paragraph 3.7.

i) Finally, bring the leaf manually to around its midpoint of travel and secure the gearmotor using the dedicated key (see chapter 3.8). Then manually open the leaf by a few more centimetres.

03. If the gate being automated has two leaves, then to install the other gearmotor repeat all the actions described here in chapter 3.4.

GRAPH 2A



3.4.3 - Installation of a gearmotor with a SHORTENED ARM

Important! - This part of the installation can only be carried out after 3.4.1 has been completed.

01. Determine a new maximum opening angle for the gate leaf (max 90°): ignoring the maximum opening position established for the leaf during procedure 3.4.1, bring the leaf to a new maximum opening position, ensuring that the angle does not exceed 90°. Then hold the gate leaf provisionally in this position using a ground-mounted stop.

02. Determine distances A - B - C:

a) Measure **distance B** (fig. 10) on the column. This is the distance between the fulcrum of rotation of the gate leaf and the surface of the column where the rear bracket of the gearmotor will be fixed.

b) On **Graph 2B**, mark **distance B** as measured, and trace a vertical line from this point.

c) On the column, determine the value for **distance A**, at which to mount the rear bracket of the gearmotor (refer to fig. 11). **N.B.!** - Choose a value for **A**, **the smaller the better**, in order to keep the motor free of the obstacle.

d) On **Graph 2B**, mark **distance A** as just measured and plot a horizontal line from this point until it intersects with the vertical line traced earlier. The meeting point of these lines defines **distance C**, i.e. the distance required between the two pins on the slotted arm (fig. 12). Example from graph 2B: if the value of **B** is 105 mm and **A** is 143 mm, then point **C** is 182.

03. Affix the gearmotor to the column (fig. 13):

a) Hold the gearmotor against the column (*) so that its vertical centre line corresponds with the vertical line traced earlier (distance A), and its arm corresponds with the horizontal line traced during procedure 3.4.1. Now ensure that the gearmotor is completely levelled: if off-axis, it can cause the automation to malfunction.

(*) **Note** - If the column surface is between 80 and 135 mm wide, then before continuing with the installation, the gearmotors rear fastening bracket will need to be rotated by 90°. To rotate the bracket, refer to fig. 8.

b) Mark the fastening points, drill the required holes in the surface of the column and insert the plugs; now fix the gearmotor in place using suitable screws and washers.

04. Shorten the slotted arm (fig. 14):

a) To reduce the length of the slotted arm to **value C** (as established in point 02-d), unscrew the nut, remove the stop, adjust the two pins so that the distance between them is equal to value C, then fasten the nut in position **provisionally**.

05. Checking the length C of the slotted arm in this context (fig. 15 - 16):

a) Bring the gate leaf into the fully Closed position;

b) Fully open the gearmotor arm to its maximum extent (see 15, phase 1);

c) Bring the arm up to the gate leaf and hold the fastening bracket against the leaf: **Important!** - push the curved arm against the leaf, until it is secured (maximum opening - see fig. 15, phase 1a).

d) Ensure that the gearmotor arm is levelled properly, and use a pencil to mark **the centre of the slot profile** on the bracket, to enable fine adjustments to be made to the closure alignment of the leaf in future (see paragraph 3.7).

e) Provisionally attach the bracket to the gate leaf and bring the leaf into its maximum opening position against the ground-mounted stop.

f) With the leaf in this position, perform the checks shown in fig. 16 (run a wire over the two pins of the slotted arm, as far as the leaf hinge). **Important!** - If, in relation to the hinge, the wire appears in position "BB" as in fig. 16, it will be necessary to extend distance C by a few millimetres. This must be repeated until the wire reaches position "AA" as in fig. 16 and the arm is no longer obstructed by the wall or other fixed obstacles.

06. Cutting the slotted arm (fig. 17):

After checking that the articulation is operating correctly, cut the slotted arm in the following manner.

a) Trace a line on the slotted arm in the position exactly as indicated in fig. 23, phase 1. Then remove the arm from the bracket and cut the part of the arm which is not required.

b) Re-assemble the components of the arm (fig. 3).

07. Affix the gearmotor arm to the gate leaf (fig. 18):

a) Drill holes in the gate leaf at the points marked.

b) Remove the bracket from the arm and affix it to the gate leaf with suitable screws.

c) Attach the arm to the bracket, inserting the pin and the Benzing retaining ring. **Important** - Check that the bracket and the arm are completely level. Loosen the screws of the bracket and adjust as required to ensure level.

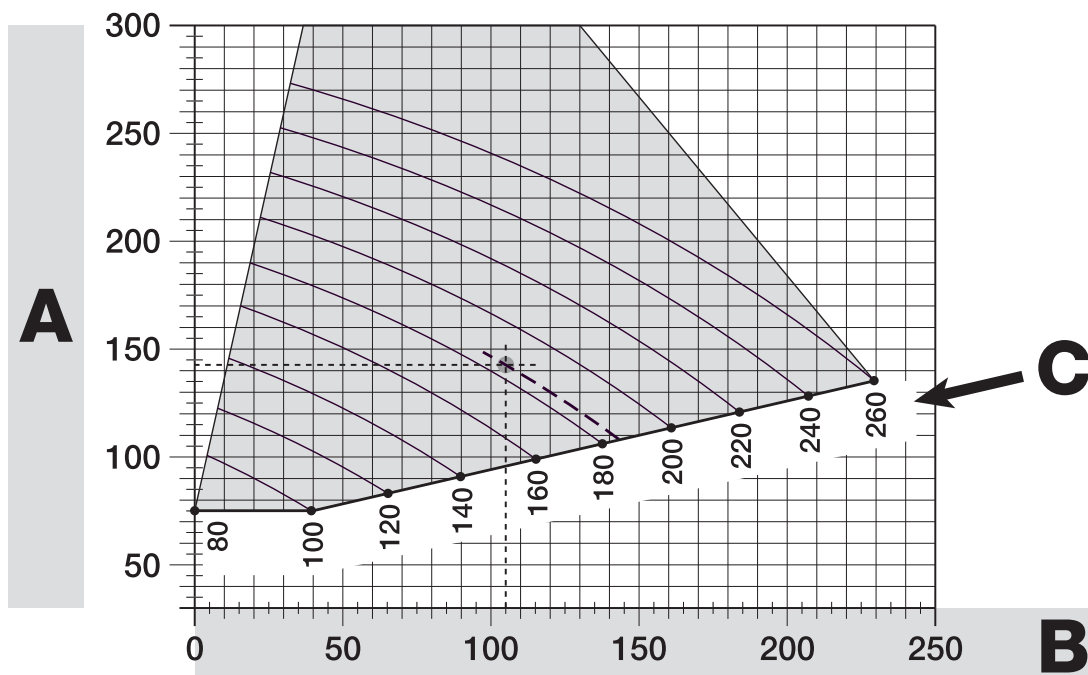
d) Fix the end stops to the ground permanently, in the position determined at the start of the procedure.

Important! - Check that the gate leaf closes completely against the end stop. To make fine adjustments to the closure alignment, refer to paragraph 3.7.

e) Finally, bring the leaf manually to around its midpoint of travel and secure the gearmotor using the dedicated key (see chapter 3.8) Then manually open the leaf by a few more centimetres.

08. If the gate being automated has two leaves, then to install the other gearmotor repeat all the actions described here in chapter 3.4.

GRAPH 2B



3.5 - Installation of the multi-purpose lamp mod. WLT on the gearmotor model WL1024C

Warning – WLT can operate as a flashing emergency light or courtesy light, depending on the control unit programming.

Follow the installation steps shown in **fig. 21**, making sure the right sequence is followed and the following warnings are adhered to:

- **for stage 4** – Rotate the power unit in the direction of the arrow, keeping a careful eye on the cables underneath that connect it to the gearmotor.
- **for stage 7** – Open out the cables fully and insert the connector into the FLASH output as shown; secure the cables by inserting them in the cable gland.
- **for stage 11** – Position the electrical board on the pin of the base, depending on the desired usage: **A** = diffuse light; **B** = directional light beam (in this case, the light beam can be directed by blocking the board in one of the holes on the base).
- **for stage 12** – Open out the cable fully, cut the excess portion and position the cables in such a way that they do not cast any shadows over the LEDs and the light sensor fitted on the back of the electrical board.
- **for stage 13** – The arrow on the cover and the one on the base should align. Ensure the 4 cogs on the base fit into the grooves inside the cover.

3.6 - How to remove the control unit

- 01.** Remove the gearmotors lower cover (**fig. 19**);
- 02.** Undo the 4 screws of the cable sleeve support and remove it (**fig. 24**, phase 1-2);
- 03.** Pull the control unit about 4 centimetres in the direction of the arrow, and detach the motor connector (**fig. 24**, phase 3-4);
- 04.** Finally, remove the control unit completely;

Important! - When reconnecting the motor to the control unit, observe the polarity of the connector (this can only be inserted one way around!).

3.7 - Adjusting the alignment of the gate leaves when closed

- 01.** Remove the slotted arm from the fastening bracket on the gate leaf;
- 02.** Loosen the screws on the bracket and move it by a few millimetres towards the gearmotor;
- 03.** Then replace the slotted arm in the bracket, close the leaf and check that it is both aligned with the other leaf and in contact with the end stop. **Important!** - If necessary, repeat point 02 until an optimum alignment is achieved;
- 04.** Drill a hole in the leaf, to correspond to the hole in the centre of the fastening bracket, and insert a screw. Then fix the bracket permanently in place by tightening the three screws;
- 05.** Finally, attach the slotted arm to the bracket, inserting the pin and the Benzing retaining ring.

3.8 - Securing and releasing the gearmotor manually

The gearmotor is equipped with a mechanical system which allows the gate to be opened and closed manually.

These manual operations are required in the event of power cuts, operational faults, or during installation.

Releasing (**fig. 22-A**):

- 01.** Rotate the release disc clockwise by 90°;
- 02.** Insert the key into the release pin;
- 03.** Turn the key by almost a full turn clockwise.
- 04.** Remove the key from the pin and rotate the release disc anticlockwise by 90° so that the hole is blocked.
- 05.** The gate leaf can now be moved manually into the required position.

Securing (**fig. 22-B**):

- 01.** Turn the key anticlockwise in the release pin and move the gate leaf manually until you can hear the leaf engage mechanically with the drive mechanism.
- 02.** Remove the key from the pin and rotate the release disc anticlockwise by 90° so that the hole is blocked.

4.1 - Description of the electrical connections (**fig. 23**)

M1	gearmotor output 1
ELS	output for 12 VAC electrical lock (max 15 VA). [*]
BLUEBUS	input for compatible devices (MOFB, MOFOB, MOB and MOTB)
STOP	input for devices which, when activated, cause the manoeuvre in progress to halt immediately, followed by a brief inversion; possibility of connecting NO, NC contacts or devices with a 8.2 kΩ constant resistance output (sensitive edges). Each device connected to this input is recognised individually by the control unit during the recognition phase (paragraph 4.7); after this phase, if the control unit detects any variation with respect to the status recognised, it causes a STOP. One or more devices - including different ones - can be connected to this input: <ul style="list-style-type: none">– several NO devices can be connected in parallel, with no limits as to quantity;– several NC devices can be connected in parallel, with no limits as to quantity;– 2 devices with a 8.2 kΩ constant resistance output can be connected in parallel. If there are more than 2 devices, they need to be connected in a cascade configuration with a single termination resistance of 8.2 kΩ;– 2 NO and NC devices can be connected in parallel, connecting in series with the NC contact a 8.2 kΩ resistance (this makes the combination of 3 NO - NC and 8.2 kΩ devices possible)
P.P.	input for control devices which, when activated, cause the Step-step manoeuvre to take place; possibility of connecting NO contacts
AERIAL	input for the aerial of a radio receiver

[*] The ELS output can be programmed with other functions using the Oview programmer (see chapter 8.3).

4.2 - Connecting the power cable

WARNING: The electricity supply line must be equipped with a device which ensures the complete disconnection of the automation system from the mains. The disconnection devices contacts must have an opening distance which is sufficient to achieve full disconnection in category III overload conditions, in conformance with the rules of installation. When the need arises, this device ensures that the power is disconnected quickly and safely; it must therefore be positioned where it can be seen from the automation system. If, however, it is not located in a visible position, it must be provided with a system to prevent the power supply being reconnected accidentally or without authorisation, in order to avoid any risk. The product is not supplied with a disconnection device.

IMPORTANT!

- The connection must be carried out exclusively by qualified experts.
- All electrical connections must be carried out without any mains electrical power supply and with the back-up battery disconnected - where present in the automation system.

- 01.** Access the power unit by undoing the 3 screws in the gearmotors upper cover and slowly rotate the cover in the direction of the arrow (**fig. 24**), keeping a careful eye on the cables underneath;
- 02.** Connect the phase and neutral wires to the power unit terminal board, observing the instructions on the label; close the earth cable grommet using the screw (**fig. 25**): **care required!** -the terminal should be pointing towards the opening from which the power cable emerges;
- 03.** Then pull the power cable towards the control unit, so that it is just long enough to allow the power unit to rotate and the cover to close;
- 04.** Close the power unit cover; tighten the screws on the cable gland; insert the control unit into its seat, and remount the cable sleeve support;

Important! - Fasten the cover of the power unit with all the screws and ensure that the seal is well positioned in its seat. If the seal or one of the screws is missing, this can compromise the electronics inside.

4.3 - Connecting the gearmotor without a control unit mod. WL1024

- 01.** Remove the lower cover of the gearmotor without control unit, as shown in **fig. 19**;
- 02.** Using a Phillips screwdriver, undo the 4 screws of the cable sleeve support and remove it (**important!** - do not lose the 2 spacers).
- 03.** Loosen the two screws on the cable gland and feed the connection cable through; connect the 3 cables to the terminal board, observing the symbols as labelled; then tighten the screws of the cable gland.
- 04.** Adjust the 2 feet inside the gearmotor with an Allen key, until they are fully resting on the column (**fig. 20**, phase 5).
- 05.** Insert the 6 rubber plugs (provided in the bag containing the small parts) in the holes in the cable sleeve support; cut the edge of the cable sleeve support (**fig. 20**, phase 6); put the 2 spacers back into position; remount the cable sleeve support and replace the gearmotors lower cover.

4.4 - Connecting other devices

If you need to power further devices in the system, such as a transponder card reader or the light for the key selector, these devices can be connected to the

4 ELECTRICAL CONNECTIONS

The electrical connection of the various devices (photocells, digital keyboards, transponder card readers, etc.) of the automation system with a control unit is carried out with the Nice "Bluebus" system. This system makes it possible to carry out the electrical connections with the use of just 2 wires along which both the electricity supply and the communication signals travel. The electrical connection to be used is parallel and does not require any polarity to be observed. During the recognition phase, every device connected to the control unit will be recognised individually by the latter, thanks to a univocal code. Every time a device is added or removed, you must carry out the control unit recognition phase (see paragraph 4.7).

control unit on terminals “P.P. (positive)” and “STOP (negative)” (fig. 26). The supply voltage varies from 18 to 31 VDC when mains or solemyo operated and from 11 to approx. 14 VDC when operating on back-up battery PS424. The maximum available current is 200 mA.

Note – The voltage available in terminals “P.P.” and “STOP” remains present even when the “Stand By” function is activated on the board.

4.5 - Addressing the connected devices

To allow the control unit to recognise the devices connected to the Bluebus system, these devices need to be addressed. This must be done by correctly positioning the electric jumper of each device, referring to the respective instruction manual of each individual device.

4.6 - Initialisation and connection check

Once you have powered the control unit, carry out the following checks:

- after a few seconds, check that the “Bluebus” LED (fig. 26) flashes regularly at a frequency of 1 flash per second;
- check that the LEDs of the photocells, both TX and RX, emit flashes. The type of flashing emitted, at this stage, is not significant;
- check that the WLT multi-purpose lamp is turned off (set on flashing function) and connected to the FLASH output on the power supply.

If this does not happen, cut off the electricity supply to the control unit and check the various electrical connections previously carried out.

4.7 - Recognition of the connected devices

Once initialisation is complete, the control unit must recognise the devices connected to the “Bluebus” and “Stop” inputs.

IMPORTANT! – The recognition phase must be carried out even if the control unit is not connected to any devices.

The control unit is designed to recognise individually the various devices connected to it thanks to the recognition procedure and it can also detect with a very high degree of precision any possible problems. Consequently, the recognition of devices must be carried out each time a device is connected or removed.

LEDs “L1” and “L2” on the control unit (fig. 26) emit slow flashes to indicate that recognition needs to be carried out:

01. Press and keep pressed keys “◀” and “Set” (fig. 26) simultaneously.
02. Release the keys when LEDs “L1” and “L2” begin to flash quickly (after approximately 3 seconds).
03. Wait a few seconds for the control unit to complete the device recognition phase.
04. At the end of this phase, the “Stop” LED should be turned on and LEDs “L1” and “L2” should turn off (LEDs “L3” and “L4” may start to flash).


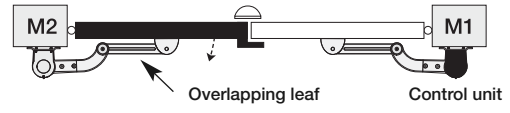
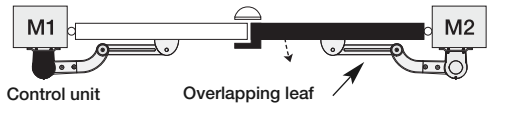
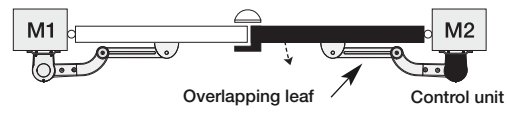
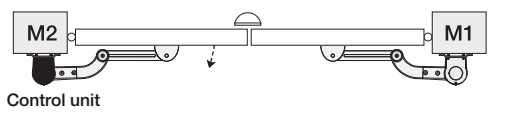
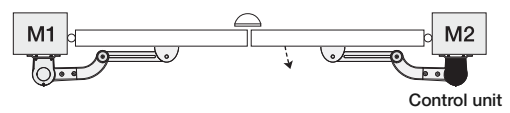
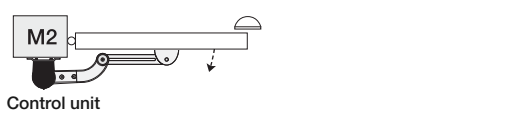
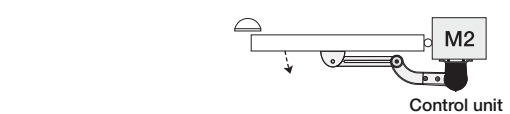
4.8 - Recognition of the positions of the mechanical stops

After the recognition of devices (paragraph 4.7), the control unit must recognise the positions of the mechanical stops (maximum Opening and maximum Closure);

During this phase, the angle of aperture of the leaf is detected from the closing mechanical stop to the opening mechanical stop. It is vital that the mechanical stops are fixed and sufficiently sturdy.

01. Identify the figure corresponding to your system in Table 2, fix the electric jumpers JA and JB in place on the control unit, in the position as indicated in this figure.
02. Release the gearmotors with the dedicated keys (see chapter 3.8) and bring the leaves to their midpoint of travel so that they are free to open and close; then secure the gearmotors.
03. On the control unit, press and keep keys “Set” and “▶” pressed simultaneously;
04. When LEDs “L3” and “L4” begin to flash quickly, (after approximately 3 secs.) release the keys;
05. Check that the automated system performs the following sequences of manoeuvres:
 - a - Slow closure of gearmotor M1 to the mechanical stop
 - b - Slow closure of gearmotor M2 to the mechanical stop
 - c - Slow opening of gearmotor M2 and gearmotor M1 to the mechanical stop
 - d - Complete quick closure of gearmotors M1 and M2
 - If the first manoeuvre of one or both leaves is not a closing movement, press any key to halt the recognition phase and check the positioning of electric jumpers JA and JB referring to Table 2; otherwise, check the polarity of the motor without control unit (mod. WL1024).
 - If the first motor to start the closing movement is not M1, press any key to halt the recognition phase and check the positioning of electric jumpers JA and JB, referring to Table 2.
 - If a device is activated during the recognition phase (photocells, key selector, pressing of a key, etc.), the recognition phase is immediately halted. It must be repeated in full.
06. At the end of the closing manoeuvre of both motors (d), LEDs “L3” and “L4” switch off to indicate that the procedure was completed successfully.

TABLE 2

	JA JB
	JA JB
	JA JB
	JA JB
	JA JB
	JA JB
	JA JB
	JA JB

4.9 - Gate leaves motion check

At the end of the recognition of the positioning of the mechanical stops, we recommend you make the control unit perform a few opening and closing manoeuvres, in order to ensure the gate moves correctly, to check for any assembly and adjustment defects or other problems:

01. Press the **Open key** (fig. 26) and check that the Opening manoeuvre includes an acceleration phase, a phase at constant velocity, a deceleration phase and that the leaves stop against the opening mechanical end stop.
02. Press the **Close key** (fig. 26) and check that the closing manoeuvre includes an acceleration phase, a phase at constant velocity, a deceleration phase and that the leaves stop against the closing mechanical end stop.
03. Check, during manoeuvres, that the flashing performs certain flashes at 0.5 second intervals with the flashing on and 0.5 seconds with the flashing off.

5 TESTING AND COMMISSIONING

These are the most important phases in the installation of the automation system, in order to guarantee maximum system safety. Testing can also be used to check the devices in the automation system regularly. The automation system testing and commissioning phases must be carried out by qualified experts who must be responsible for determining the tests necessary to check the solutions adopted vis-à-vis the risks involved, and to check the observance of all legal and regulatory obligations: in particular all the requirements of the EN 12445 standard which sets forth the test methods for checking automated gates.

Additional devices must undergo specific testing, both in terms of functionality as well as their correct interaction with WALKY.; please refer to the relevant individual instruction manuals.

5.1 - Testing

The sequence of steps to take to carry out testing refers to a typical system (fig. 2):

- 1 Release the gearmotors manually and check that when you operate the leaf, at the point designed especially for the manual manoeuvre, the leaves can either be opened or closed with a force of less than 390 N.
- 2 Check that the leaf, when left in any position along its travel, does not move.
- 3 Secure the gearmotors (see chapter 3.8).
- 4 Check that the screw connections are screwed in tightly.
- 5 Using the control devices (transmitter, command button, key selector, etc.), perform some Gate Opening, Closing and Stop tests, making sure the movement of the leaves corresponds with each test. It is a good idea to carry out several tests in order to evaluate the movement of the leaves and pinpoint any assembly or adjustment defects as well as to check for any particular points of friction.
- 6 Check one by one that all the safety devices in the system work properly (photocells, sensitive edges, etc.). When a device is activated, the "BLUEBUS" LED on the control unit emits two quicker flashes to confirm that recognition has taken place.
- 7 If the hazardous situations caused by the movement of the leaves have been safeguarded by limiting the force of impact, the force must be measured in accordance with the EN 12445 standard and, if necessary, if the control of the "gearmotor force" is used as an aid to the system to reduce the force of impact, try and then find the adjustment that achieves the best results.
- 8 Affix permanently a label describing how to release the gearmotor manually in an area adjacent to the automation system.

5.2 - Commissioning

Commissioning can only take place once all the testing phases have been carried out successfully.

- 1 Put together the automation systems technical file, which should include the following documents: an overall diagram of the automation system, the diagram of the electrical connections made, the current risk analysis and the related solutions adopted, the manufacturers declaration of conformity for all the devices used and the declaration of conformity filled in by the installer.
- 2 Affix a data plate onto the gate which specifies the following information, at least: the type of automation system, the name and address of the manufacturer (responsible for the commissioning), the serial number, the year of manufacture and the EC mark.
- 3 Fill in the declaration of conformity of the automation system and hand it over to its owner.
- 4 Fill in and hand over to the owner of the automation system the "Users guide" of the automation system.
- 5 Fill in and hand over to the owner of the automation system the "Maintenance schedule" which contains instructions on the maintenance of all the devices in the automation system.
- 6 Before commissioning the automation system, inform the owner of all the hazards and residual risks entailed.

For all the documentation mentioned, the Nice technical support service provides the following: instruction manuals, guides and precompiled forms. Also visit: www.nice-service.com

6 PROGRAMMING THE CONTROL UNIT

There are three keys on the control unit. These are **OPEN** (◀), **STOP (SET)** and **CLOSE** (▶) and they can be used to operate the control unit during the testing phases as well as for programming the functions available.

The programmable functions available are arranged on 2 levels and their operating status is indicated by the 4 LEDs (L1 ... L4) on the control unit (LED on = function activated; LED off = function deactivated).

Use the programming keys (fig. 26):

OPEN (◀): – key to control the gate opening; – selection key during the programming phase.

STOP/SET: key to stop a manoeuvre; when pressed for more than 5 seconds, it allows you to enter the programming phase.

CLOSE (▶): – key to control the gate closing; – selection key during the programming phase.

6.1 - Level one programming (ON-OFF)

All level one functions are programmed at the factory to "OFF" and can be changed at any time. To check the various functions please see **Table 5**. For the programming procedure, please see **Table 6**.


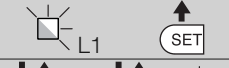



Note – These procedures can be performed again at any time, even after a new device has been connected to the control unit.

IMPORTANT – The programming procedure has a maximum time of 10 seconds between one key and another being pressed. After this time, the procedure ends automatically, storing the changes made up until that moment.

TABLE 5 - Level one functions

LED	Function	Description
L1	Automatic close	Function ACTIVATED: after an opening manoeuvre, there is a pause (equal to the programmed pause Time) after which the control unit automatically performs a closing manoeuvre. The factory set pause time is 30 sec. Function DEACTIVATED: operation is "semi-automatic".
L2	Close after photo	Function ACTIVATED: if the photocells are activated during an opening or closing manoeuvre, the pause time is reduced to 5 sec. irrespective of the programmed "pause time". With the "automatic close" function deactivated, if the photocells are activated during the closing manoeuvre, the "automatic close" is activated with the programmed "pause time".
L3	Always close	Function ACTIVATED: in the event of a power cut, albeit brief, when the electricity supply returns the control unit detects the open gate and automatically starts a closing manoeuvre, after 5 sec. of pre-flashing. Function DEACTIVATED: when the electricity supply returns, the gate will remain as is.
L4	Stand by (Bluebus)	Function ACTIVATED: 1 minute after the manoeuvre is finished, the control unit turns off the "Bluebus" output (connected devices) and all LEDs except for the Bluebus LED which will flash more slowly. When the control unit receives a command, it restores normal operation (with a short delay). This function is designed to reduce consumption levels, which is a key feature when battery or photovoltaic panel powered.

TABLE 6 - Level one programming procedure

01. Press and keep key "Set" pressed for approximately 3 seconds;	
02. Release the key when LED "L1" begins to flash;	
03. Press key "◀" or "▶" to move the flashing LED to the LED representing the function you wish to change;	
04. Press the "Set" key to change the status of that function: (brief flashing = OFF - long flashing = ON);	
05. Wait 10 seconds (maximum) to exit programming mode.	

Note – To program other functions to "ON" or "OFF" when the procedure is in progress, repeat steps 03 and 04 during the phase itself.














6.2 - Level two programming (adjustable parameters)

All level two parameters are programmed at the factory as highlighted in grey in Table 8 and can be modified at any time following the procedure described in Table 7.

The parameters are adjustable on a scale of values from 1 to 4; to check the value corresponding to each LED, please see Table 8. **IMPORTANT** –The pro-

gramming procedure has a maximum time of 10 seconds between one key and another being pressed. After this time, the procedure ends automatically, storing the changes made up until that moment.

TABLE 7 - Level two programming procedure

01. Press and keep key “Set” pressed for approximately 3 seconds;	 3 s
02. Release the key when LED “L1” begins to flash;	 L1 
03. Press key “◀” or “▶” to move the flashing LED to the LED representing the “input LED” of the parameter you wish to change;	 or  
04. Press and keep pressed the “Set” key until step 06 is complete;	
05. Wait approximately 3 seconds until the LED representing the current level of the parameter to be changed is turned on;	
06. Press key “◀” or “▶” to move the LED representing the value of the parameter;	 or  
07. Release the “Set” key;	
08. Wait 10 seconds (maximum) to exit programming mode.	 10 s

Note – To program several parameters when the procedure is in progress, repeat steps 03 to 07 during the phase itself.

TABLE 8 - Level two functions

LED input	Parameter	LED (level)	Value	Description
L1	Pause Time	L1	5 seconds	Adjusts the pause time, i.e. the amount of time before the gate closes automatically. Only effective if Close is activated.
		L2	30 seconds	
		L3	60 seconds	
		L4	120 seconds	
L2	Step-Step Function	L1	Opens – stop – closes – stop	Adjusts the sequence of commands associated with the “Step-Step” input or radio command. Note – When L4 is set, the behaviour of the “Opens” and “Closes” commands is also modified.
		L2	Opens – stop – closes – opens	
		L3	Opens – closes – opens – closes	
		L4	Apartment building: • during the opening manoeuvre, the “Step-Step” and “Opens” commands do not have any effect; on the other hand, the “Closes” command causes the movement to be inverted, i.e. the leaves to close. • during the closing manoeuvre, the “Step-Step” and “Opens” commands cause the movement to be inverted, i.e. the leaves to open; on the other hand, the “Closes” command does not have any effect.	
L3	Motor velocity	L1	Slow	Adjusts the velocity of the motors during normal travel.
		L2	Medium	
		L3	Fast	
		L4	Very fast	
L4	Motor force	L1	Level 1 - Minimum force	Adjusts the force of both motors.
		L2	Level 2 - ...	
		L3	Level 3 - ...	
		L4	Level 4 - Maximum force	

6.3 - Memory deletion

To delete the memory of the control unit and restore all the factory settings, proceed as follows: press and keep pressed keys “◀” and “▶” until LEDs L1 and L2 start to flash.

6.4 - Special functions

Function: “Move anyway”

This function makes it possible to operate the automation system even when a safety device is not working properly or is out of order.

The automation system can be controlled in “push to run” mode as follows:

- Send a command to operate the gate, using a transmitter or key selector, etc. If everything is working properly, the gate will move normally, otherwise proceed as follows:
- within 3 seconds, send the command again and keep it activated;
- after approximately 2 seconds, the gate will perform the manoeuvre

requested in “push to run” mode; i.e. the gate will continue to move only for as long as the command is activated.

When the safety devices do not work, the flashing light emits a few flashes to indicate the type of problem (see chapter 7 - Table 10).

Some devices are designed to emit signals which help you recognise their operating status or any problems. If the WLT multi-purpose lamp is connected to the FLASH output on the power supply and set with the flashing function, during the performance of a manoeuvre, it emits a flashing light every second. If any problems are encountered, the flashing emits shorter flashes, which are repeated twice, divided by a 1 second

pause. **Table 10** describes the cause and solution for each type of signal. The LEDs on the control unit also emit signals; **Table 11** describes the cause and solution for each type of signal.

TABLE 10 - Flashing light signals (FLASH)

Flashes	Problem	Solution
1 brief flashing 1 second pause 1 brief flashing	Error on the Bluebus system	The check of the devices connected to the Bluebus system, which is carried out at the beginning of the manoeuvre, does not correspond to the devices stored during the recognition phase. There might be devices which are disconnected or out of order, so you need to check and replace them if necessary. If modifications have been made, you will need to repeat the recognition of devices (see paragraph 4.7).
2 brief flashes 1 second pause 2 brief flashes	Photocell activation	One or more photocells are not are not permitting movement or during travel they caused the movement to be inverted; check for any obstacles.
3 brief flashes 1-second pause 3 brief flashes	Activation of the "Obstacle Detection" by the force limiting device	During the movement, the motors encountered greater effort; verify the cause and increase the force of the motors if necessary
4 brief flashes 1 second pause 4 brief flashes	STOP input activation	At the beginning of the manoeuvre or during the movement, one of the devices connected to the STOP input was activated; verify the cause.
5 brief flashes 1 second pause 5 brief flashes	Error in the internal parameters of the control unit	Wait at least 30 seconds and then try to repeat the command and if necessary cut off the power supply; if the status remains the same, there might be a serious failure and the electrical board may need replacing.
6 brief flashes 1 second pause 6 brief flashes	Maximum limit of consecutive manoeuvres or manoeuvres per hour exceeded.	Wait a few minutes in order to allow the manoeuvres limiting device to return to below the maximum limit.
7 brief flashes 1 second pause 7 brief flashes	Electrical circuits fault	Wait at least 30 seconds and then try to repeat the command and if necessary cut off the power supply; if the status remains the same, there might be a serious failure and the electrical board may need replacing.
8 brief flashes 1 second pause 8 brief flashes	A command has already been given, which does not allow any other commands to be performed	Check the nature of the command in progress; it could for example be the command from a clock on the "opens" input.
9 brief flashes 1 second pause 9 brief flashes	The automation system was secured by a "Secure the automation system" command	Release the automation system by sending the "Release the automation system" command.

TABLE 11 - Signals from the LEDs on the control unit (fig. 23)

LED	Problem	Solution
BLUEBUS Always off	Fault	Ensure the control unit is powered; check whether the fuses have blown. In this case, check the cause of the fault and replace them with others of the same value
Always on	Serious fault	There is a serious fault: try to cut off the electricity supply to the control unit and if the status remains, then you will need to replace the electrical board
1 flash per second	All ok	Normal operation of the control unit
2 fast flashes	Change in the status of the inputs	If it normal if a variation in one of the input takes place (PP, STOP): photocells activation or a command is transmitted with a transmitter
Series of flashes divided by a one-second pause	Other	Please refer to Table 10
STOP Always off	Activation of the devices connected to the STOP input	Check the devices of the STOP input
Always on	All ok	STOP input activated
P.P. Always off	All ok	P.P. input deactivated
Always on	Activation of the P.P. input	It is normal if the device connected to the P.P. input is activated
L1 - L2 Slow flashing	Change in the number of devices connected to the Bluebus or device recognition not performed	The recognition of devices must be carried out (see paragraph 4.7)
L3 - L4 Slow flashing	The recognition of the positions of the mechanical stops was not carried out	The recognition must be carried out (see paragraph 4.8).

8 FURTHER INFORMATION

The following accessories are envisaged for WALKY (radio receiver): the Oview programmer, the Solemyo solar power system and the back-up battery mod. PS424.

8.1 - Connection of the OXI radio receiver

To connect the OXI receiver, first cut off the electricity supply to the control unit and proceed as illustrated in **fig. 27**. **Table 12** and **Table 13** indicate the commands which correspond to the outputs on the control unit.

TABLE 12

SMXI / SMXIS or OXI / OXIFM / OXIT / OXITFM in mode I or Mode II

Output 1	Command "P.P." (Step-Step)
Output 2	Command "partial opening 1"
Output 3	Command "Opens"
Output 4	Command "Closes"

TABLE 13

OXI / OXIFM / OXIT / OXITFM in mode II extended

No.	Command	Description
1	Step-Step	Command "P.P." (Step-Step)
2	Partial opening 1	Command "partial opening 1"
3	Opens	Command "Opens"
4	Closes	Command "Closes"
5	Stop	Stop the manoeuvre
6	Step-Step Apartment Building	Command in Apartment Building mode
7	Step-Step high priority	Command even with automation system secured or commands activated
8	Partial opening 2	Partial opening (opening of leaf M2 to half of its total travel)
9	Partial opening 3	Partial opening (opening of both leaves to half of their total travel)
10	Opens and Secure automation system	Causes an opening manoeuvre at the end of which the automation system is secured; the control unit does not accept any other command except for the "Step-Step high priority", "Release" automation system or (only from Oview) the commands: "Release and close" and "Release and open"
11	Closes and Secure automation system	Causes a closing manoeuvre at the end of which the automation system is secured; the control unit does not accept any other command except for the "Step-Step high priority", "Release" automation system or (only from Oview) the commands: "Release and close" and "Release and open"
12	Secure automation system	Causes the manoeuvre to be stopped and the automation system to be secured; the control unit does not accept any other command except for the "Step-Step high priority", "Release2 automation system or (only from Oview) the commands: "Release and close" and "Release and open".
13	Release automation system	Causes the automation system to be released and normal operation to be restored
14	On Timer Courtesy Light	The Courtesy light output is turned on with timed switch-off
15	On-Off Courtesy Light	The Courtesy light output is turned on and off in On-Off mode

8.2 - Connection and installation of the back-up battery mod. PS424

IMPORTANT! - The battery must only be connected to the control unit after all the phases of installation and programming have been completed, as the battery constitutes a source of emergency power.

To arrange connection to the Solemyo system, follow the stages of assembly **fig. 28**.

8.3 - Connection of the Oview programmer

The control unit has a BusT4 connector to which the Oview programming unit can be connect, and which allows the complete rapid management of the installation and maintenance phase as well as the diagnosis of the entire automation system. To access this connector, proceed as shown in **fig. 29** and connect the connector to the dedicated seat. The Oview can be connected to several Control units simultaneously (up to 5 without any particular precautions, and up to 60 observing the dedicated warnings) and can stay connected to the control unit even during the normal operation of the automation system. In this case, it can be used to send the commands directly to the control unit using the specific "user" menu. The Firmware upgrade can also be carried out. If there is a radio receiver from the OXI family in the control unit, Oview can be used to gain access to the parameters of the transmitters stored in the receiver itself.

For further information, please consult the relevant instruction manual and the manual for the "Opera system book" system.

8.4 - Connection of the Solemyo solar power system

IMPORTANT! – When the automation system is powered by the "Solemyo" system, IT MUST NOT BE POWERED concurrently by the electricity mains.

For further information about the Solemyo system, please refer to its instruction manual.

To arrange connection to the Solemyo system, follow the stages of assembly illustrated in **fig. 30**.

To complete the connection between Solemyo and the gearmotor control unit, use the dedicated adapter cable.

9 PRODUCT MAINTENANCE

In order to keep the safety level constant and to guarantee the maximum life span of the entire automation system, regular maintenance is vital.

All maintenance work must be carried out in compliance with the safety provisions of this manual and in accordance with existing laws and regulations.

The product requires frequent inspection to check for imbalances or signs of wear or damage to the cables and springs. Do not use the product if adjustments or repairs are required.

Important – During the product maintenance or cleaning operations, cut off the electricity supply to the control unit.

For the other devices in the system, follow the instructions provided in their respective maintenance schedules.

For gearmotors WL1024C, WL1024 and WL2024, scheduled maintenance is required at the latest 6 months or 20,000 manoeuvres after the previous maintenance work.

Maintenance can be performed as follows:

- 01.** Cut off any electrical power source, including any back-up batteries;
- 02.** Check the condition and wear of all the materials making up the gearmotor, paying special attention to erosion or rusting; replace all parts which do not provide sufficient guarantees;
- 03.** Reconnect the electrical power sources and perform all the checks envisaged in chapter 5.1 - Testing.

DISPOSING OF THE PRODUCT

This product is an integral part of the automation system, and should therefore be disposed of together with it.

As for the installation operations, even at the end of this products life span, the dismantling operations must be carried out by qualified experts.

This product is made up of various types of materials: some can be recycled while others need to be disposed of. Find out about the recycling or disposal systems envisaged by your local regulations for this product category.

Important! – parts of the product could contain pollutants or hazardous substances which, if released into the environment, could cause harmful effects to the environment itself as well as to human health.

As indicated by the symbol opposite, throwing away this product as domestic waste is strictly forbidden. So dispose of it as differentiated waste, in accordance with your local regulations, or return the product to the retailer when you purchase a new equivalent product.



Important! – the local applicable regulations may envisage heavy sanctions in the event of illegal disposal of this product.

Disposal of the back-up battery (where present)

Important! – The flat battery contains pollutants and should therefore not be thrown away as common waste.

It should be disposed of as differentiated waste, as envisaged by your local applicable regulations.

PRODUCT TECHNICAL SPECIFICATIONS

WARNINGS: • All technical specifications are referred to a room temperature of 20°C (± 5°C). • Nice S.p.a. reserves the right to make any changes deemed necessary to the product at any time while maintaining the same functions and intended use.

Type: Electric gearmotor for automated gates and doors with direct reduction gear and mechanical release mechanism. Only for model WL1024C: built-in control unit and OXI radio receiver

Maximum torque: 100 Nm

Nominal torque: 50 Nm

Idle velocity: 0.20 rad/s - 0.3 rad/s

Velocity of nominal torque: 0.16 rad/s - 0.24

Maximum cycle frequency: 100 complete cycles per day (the control unit of WL1024C limits to a maximum of approximately 50)

Maximum continuous cycle time: approx. 10 minutes

Usage limitation: the product can be used on gates weighing up to 180 kg (0.8 m leaf) or with a leaf length of up to 1.6 m and an angle of aperture of up to 110°

Power supply: WL1024C: 230 VAC (+10% -15%) 50/60 Hz; WL1024: 24 VDC (50%); WL1024C/V1: 120 VAC (+10% -15%) 50/60 Hz

Emergency power supply: Designed to accommodate back-up battery PS424

Solar panel power supply: designed to accommodate SOLEMYO kit

Nominal absorbed power from electricity mains (WL1024C): 120 W

Nominal absorbed current (WL1024): 2 A; at pick-up the current is 3 A for a maximum time of 2 s

Power absorbed from the electricity mains with “Standby – All (1)” function activated (including the OXI receiver): 3 W

Power absorbed when operating on back-up battery or SOLEMYO KIT with “Standby-All (1)” function activated: less than 100 mW (including the OXI receiver)

Electrical lock output [*]: a 12 VAC max 15 VA electrical lock

Flashing output [*]: a flashing WLT or a 12VDC lamp, 21 W max

BLUEBUS output: an output with maximum load of 15 Bluebus units (maximum 6 pairs of MOFB or MOFOB photocells + 2 pairs of MOFB or MOFOB photocells addressed as opening devices + maximum 4 MOMB or MOTB control devices)

STOP input: for normally closed, normally open contacts or with a constant resistance of 8.2 kohm; the selection of the type of contact takes place in auto-recognition and a variation compared to the status stored causes the “STOP” command

PP input: for normally open contacts (the closing of the contact causes the Step-Step command)

Radio connector: SM connector for receivers from the SMXI, OXI and OXIFM families

Radio AERIAL input: 50 Ø for type RG58 or similar cable

Programmable functions: 4 ON-OFF type functions (Table 5) and 4 adjustable functions (Table 8)

Functions in auto-recognition: • Auto-recognition of the devices connected to the BlueBus output. • Auto-recognition of the type of device connected to the “STOP” terminal (NO, NC or 8.2 kohm resistance contact). • Auto-recognition of the travel of the leaves and automatic calculation of the points of deceleration and partial opening. • Auto-recognition of operation with one or two motors

Assembly: Vertically, with dedicated fastening plate

Operating temperature: from -20°C to +50°C (at low temperatures the efficiency of the gearmotor decreases)

Usage in particularly acidic or saline or potentially explosive atmosphere: NO

Protection rating: IP 44 (with casing intact)

Dimensions (mm): 90 x 125 x 385 h

Weight (kg): (WL1024C) 4.8; (WL1024) 4.3

Note:

(1) - Function which can be activated with the Oview programmer.

[*] - The outputs of the terminals on the control unit (“Electrical lock”) and on the power unit (“Flash”) can be reprogrammed with other functions, using the Oview programmer. The electrical characteristics of these two outputs are adapted depending on the type of function chosen:

- “electrical lock” function: 12VAC, 15VA max;
- “flashing” function: a WLT multi-purpose lamp, or a 12VDC lamp, 21W max;
- other types of functions: a lamp or a relay at 24VDC (-30 and +30%), 4 W max, if the control unit is mains powered, or a lamp or relay at 12VDC (-10 and +25%), 4 W max, if the control unit is powered by the back-up battery PS424.

Product life span

The product life span is its average commercial life. The value of the product life span is strongly affected by the strenuousness index of the manoeuvres performed by the automation system: i.e. the sum of all the factors which contribute to the product wear (see Table 14).

To determine the probable life span of your automation system, proceed as follows:

01. Calculate the strenuousness index by adding together the percentage values of the items in **Table 14**;

02. In **Graph A** trace a vertical line from the value as just calculated until it intersects the curve; from this point, trace a horizontal line until it intersects the line of the "manoeuvre cycles". The value determined is the estimated life span of your product.

The life span estimate is based on design calculations and on the results of tests performed on prototypes. Indeed, since it is an estimate, it is in no way a guarantee as to the actual duration of the product.

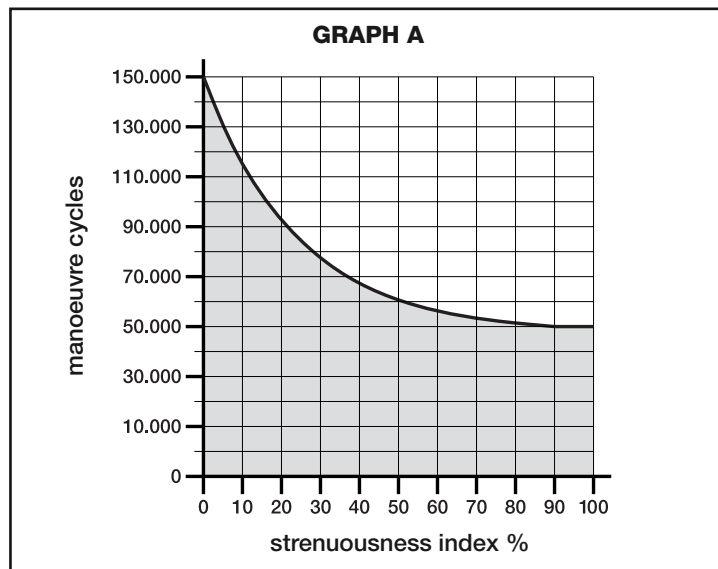


TABLE 14			
		Strenuousness index	
		Walky full length arm	Walky shortened arm
Weight of leaf:	< 100 Kg	-	-
	100 - 120 Kg	30 %	30 %
	120 - 140 Kg	40 %	40 %
	140 - 160 Kg	45 %	45 %
	1,2 - 1,6 m	20 %	0 %
Length of the leaf:	0,8 - 1,2 m	10 %	10 %
	< 0,8 m	-	5 %
Room temperature above 40°C or below 0°C or humidity above 80%		20 %	20 %
Blind leaf:		15 %	15 %
Installation in windy area:		15 %	15 %

Example of life span calculation for a X-Metro gearmotor (please refer to Table 1 and Graph A):

- weight of leaf: 50 kg (strenuousness index: 20%)
- length of leaf = 1.6 m (strenuousness index: 20%)
- no other straining elements present
- Total strenuousness index = 40%*
- Estimated life span = 65.000 manoeuvre cycles*

EC DECLARATION OF CONFORMITY

Note - The contents of this declaration correspond to the declarations contained in the latest available revision, prior to printing of this manual, of the official document on file at the headquarters of Nice S.p.a. This text was readapted for editorial purposes.

Number: 322/WL.. **Revision:** 0

The undersigned Luigi Paro, as Managing Director, declares on his own responsibility that the product:

Name of manufacturer: NICE s.p.a.
Address: Via Pezza Alta 13, Z.I. Rustignè, 31046 - Oderzo (TV) Italy
Type: Electric gearmotor
Models: WL1024C, WL1024
Accessories: OXI, OVBT, OVBTGSM, SYKCE, PS24

are compliant with the provisions of the following EC directives:

- 98/37/CE (89/392/EEC amended) DIRECTIVE 98/37/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 22 June 1998 concerning standardization of the legislation of member states on machinery
 As envisaged in directive 98/37/EC, please note that the commissioning of the above product is not permitted until the machine in which the product is installed has been identified and declared as conforming to directive 98/37/EC.

The product is also compliant with the provisions of the following EC directives, as amended by Directive 93/68/EEC of the council of 22 July 1993:

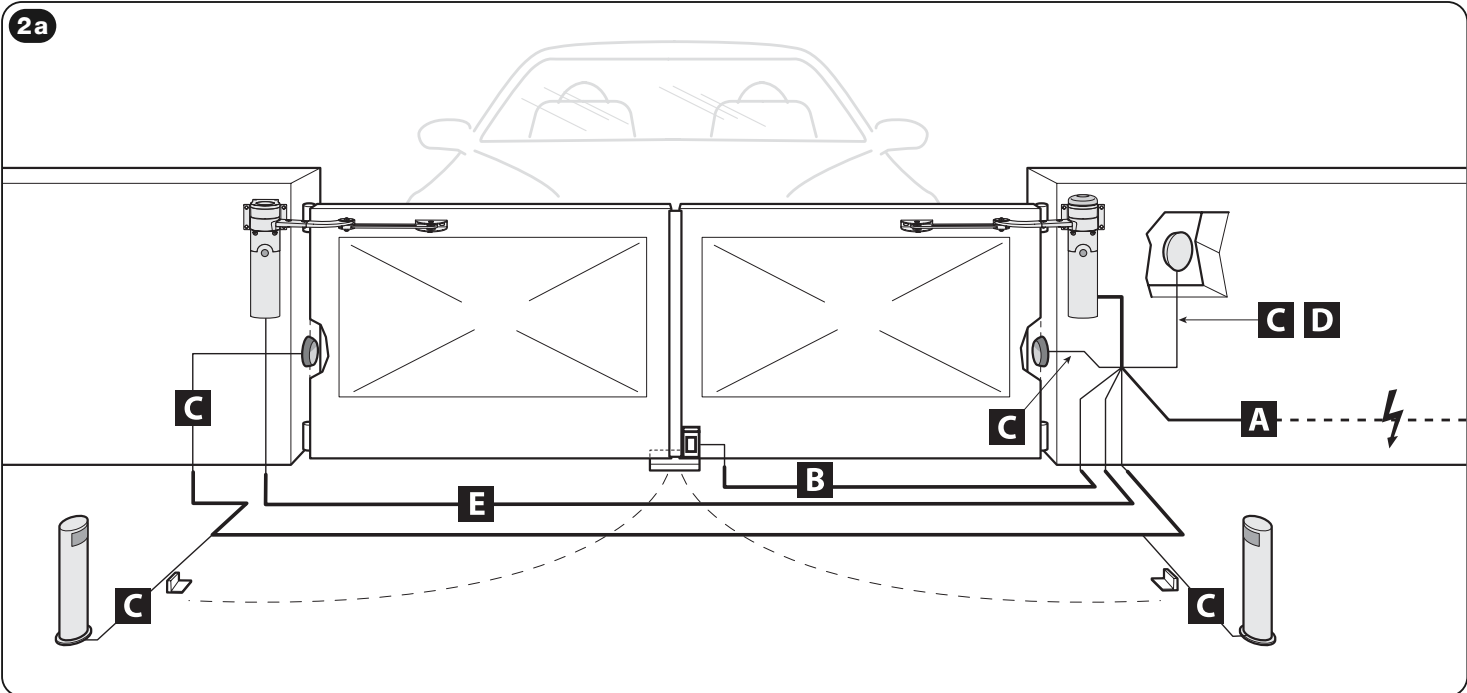
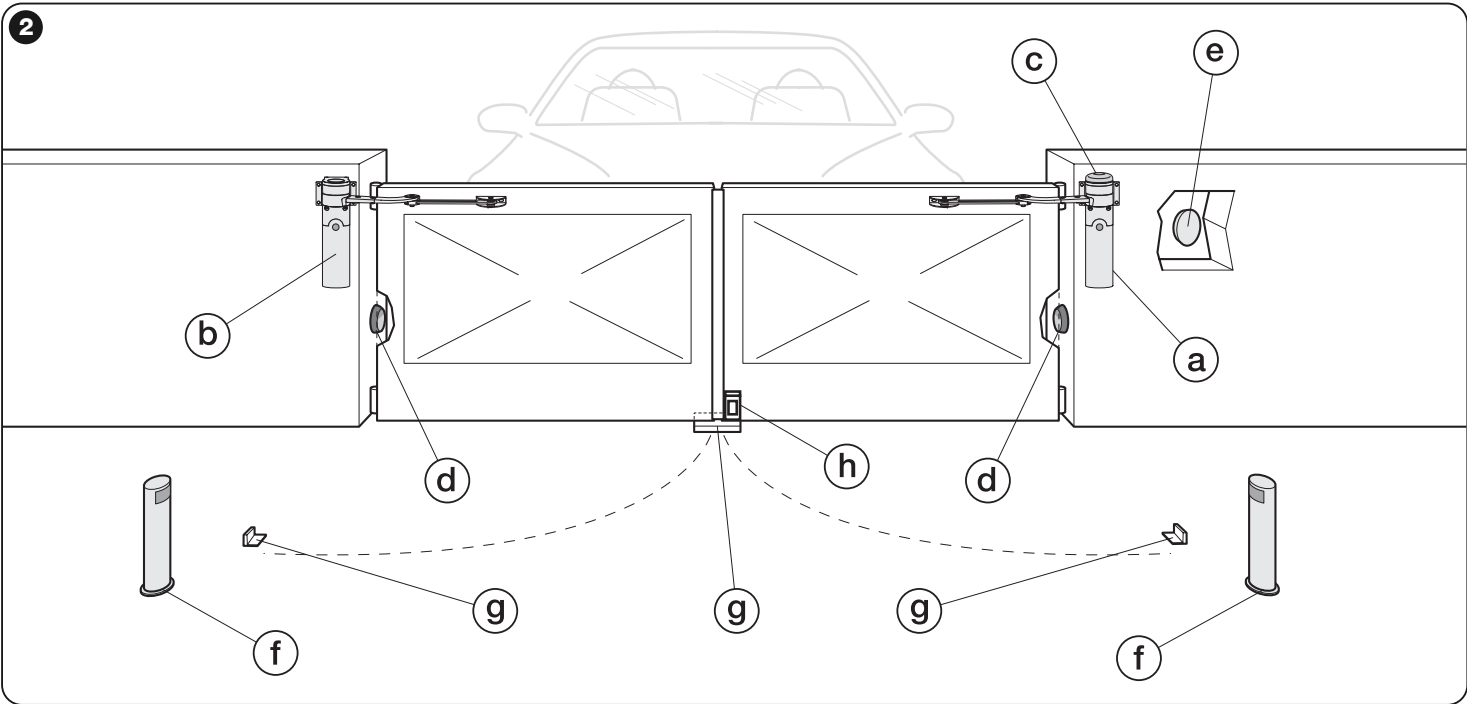
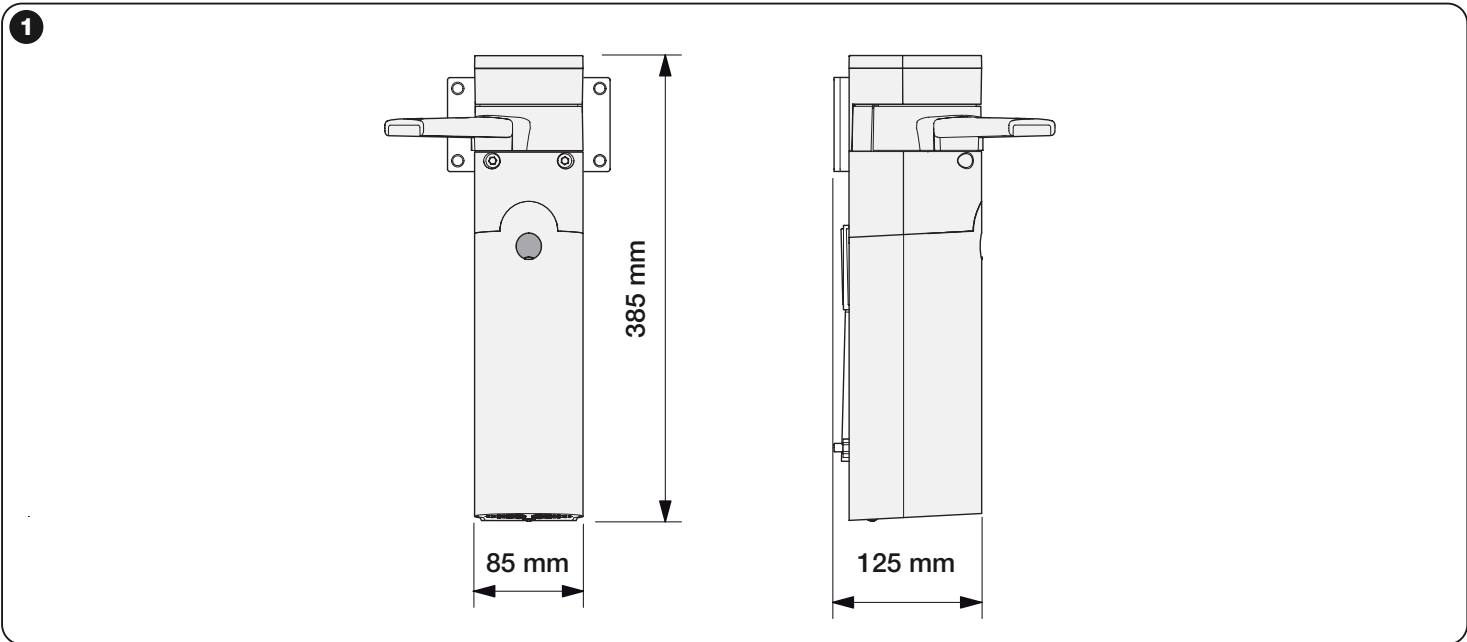
- 2006/95/EEC (ex-directive 73/23/EC) DIRECTIVE 2006/95/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 12 December 2006 concerning standardization of member states on electrical material to be used within certain voltage limits
 In accordance with the following harmonized standards:
 EN 60335-1:1994+A11:1995+A12:1996+A13:1998+A14:1998+A15:2000+A2:2000+A16:2001
- 2004/108/EEC (ex-directive 89/336/EEC) DIRECTIVE 2004/108/EC OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 15 December 2004 concerning standardization of the legislation of member states on electromagnetic compatibility and which repeals 89/336/EEC
 In accordance with the following harmonized standards: EN 61000-6-2:2005; EN 61000-6-3:2007

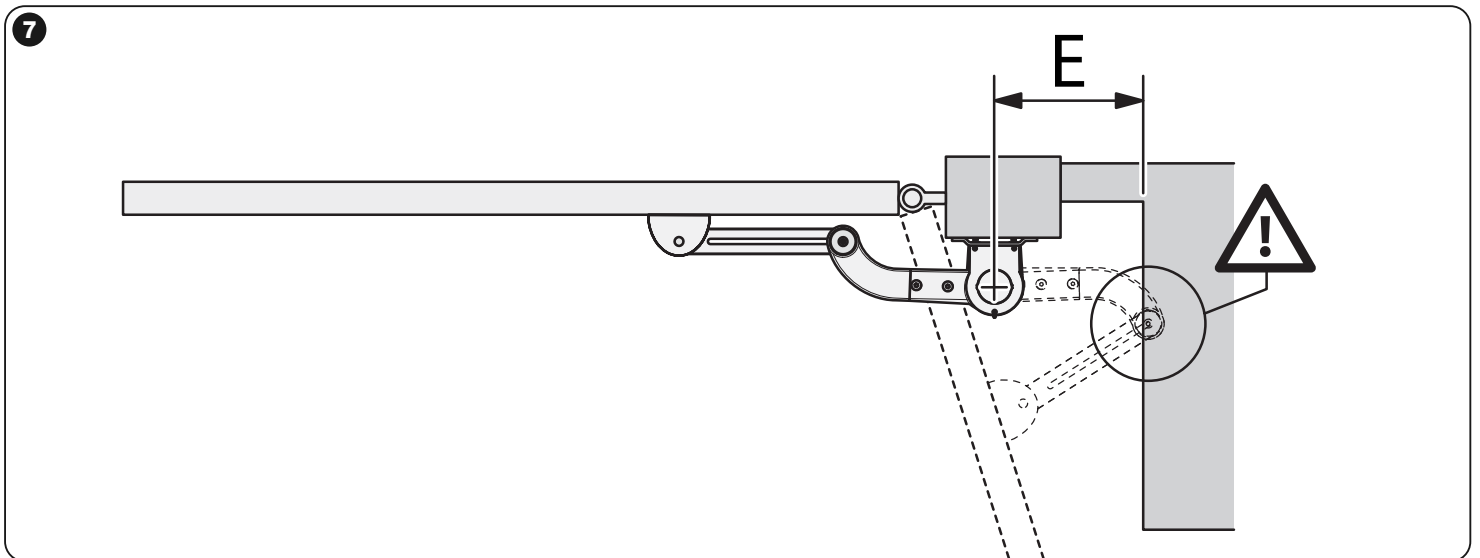
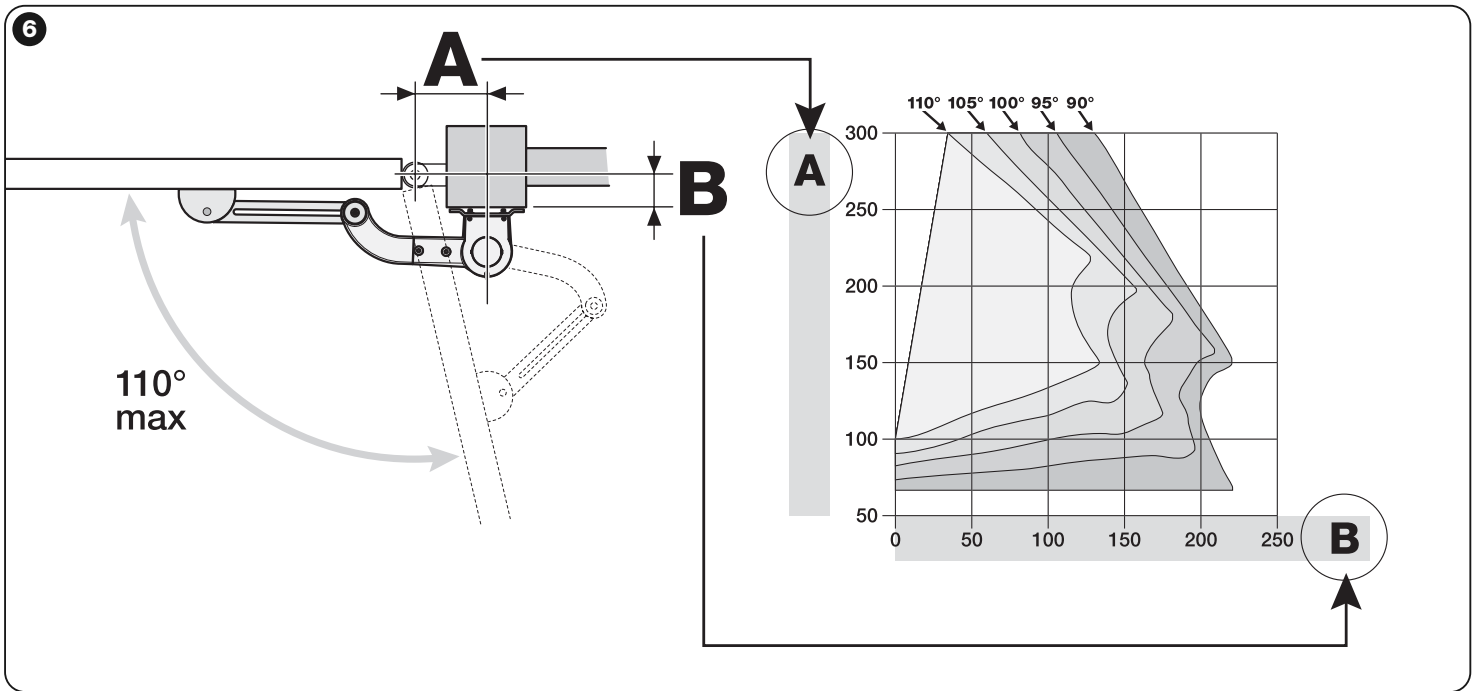
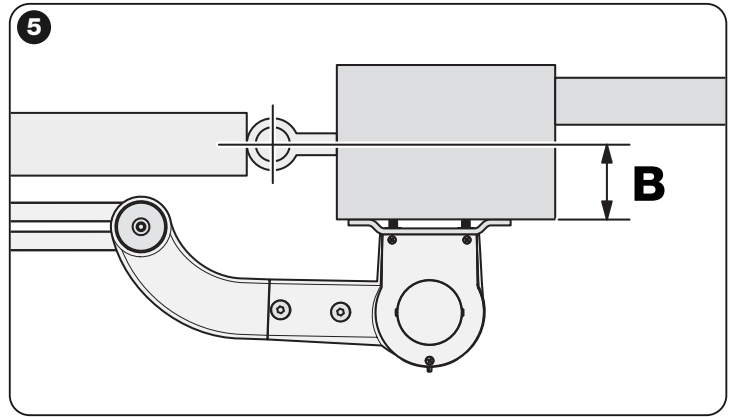
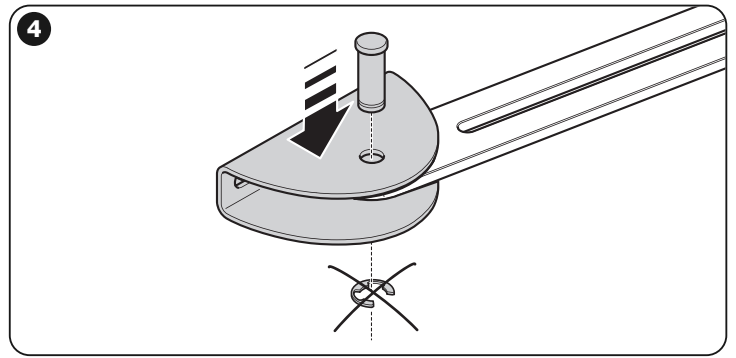
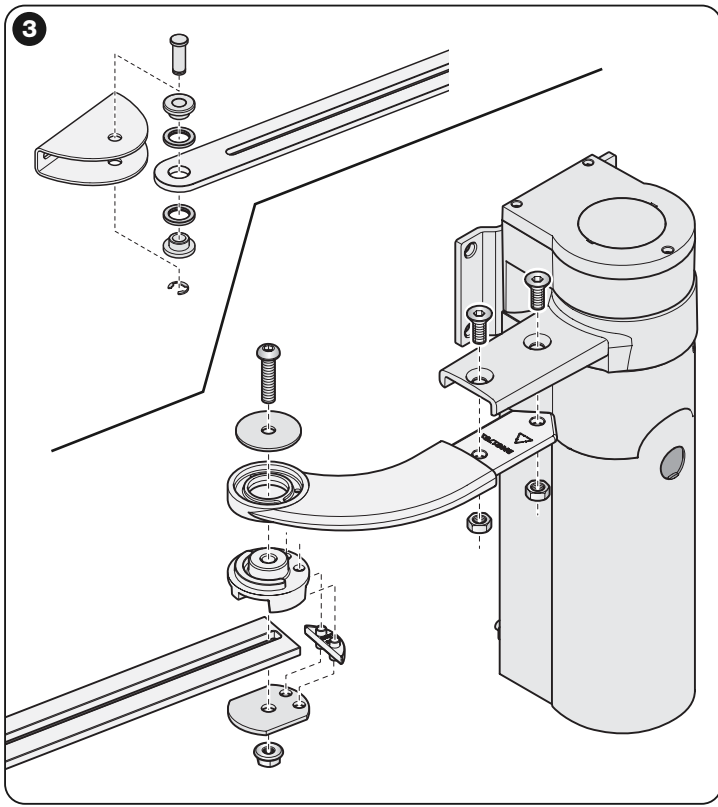
It is also compliant - limited to the applicable parts - with the following standards:

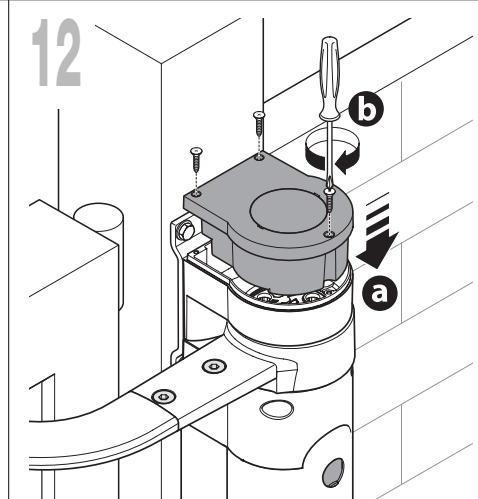
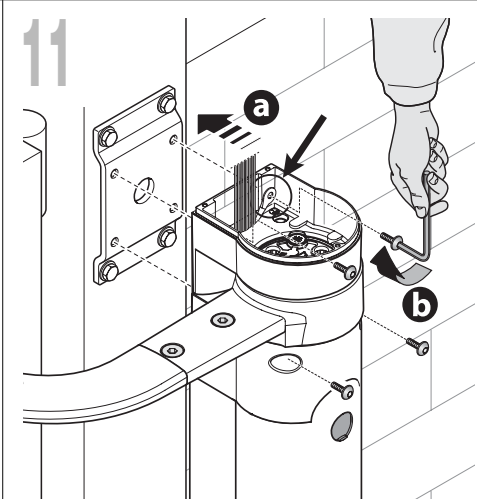
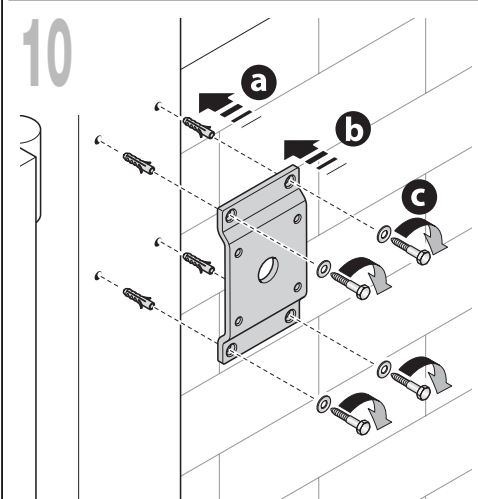
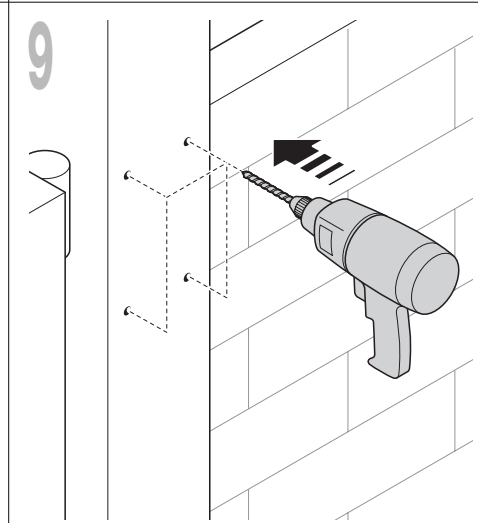
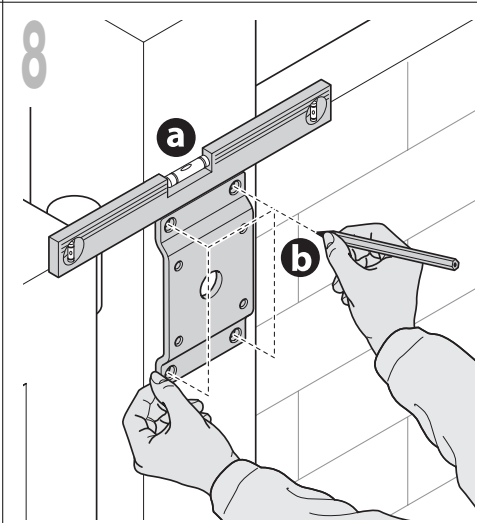
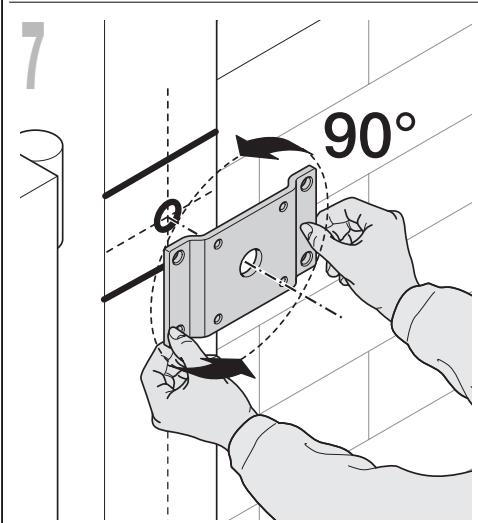
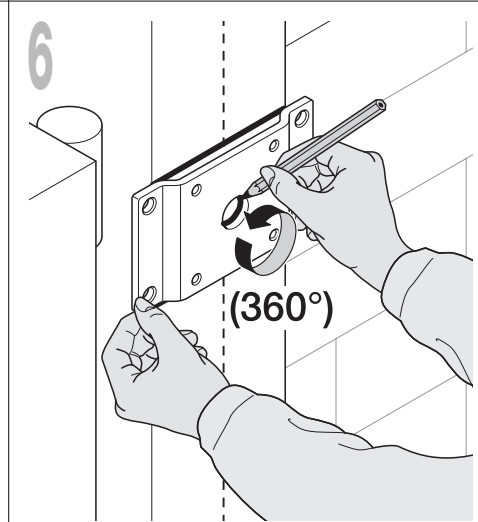
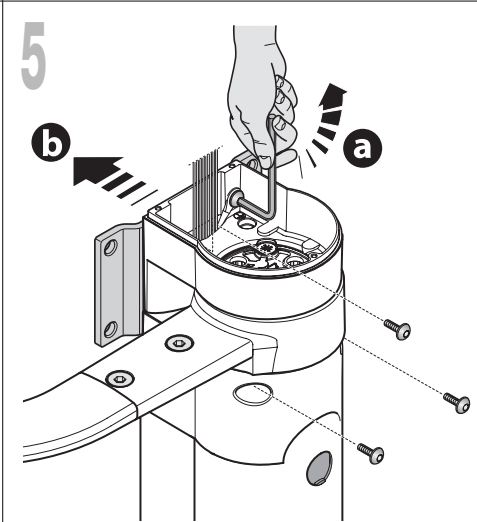
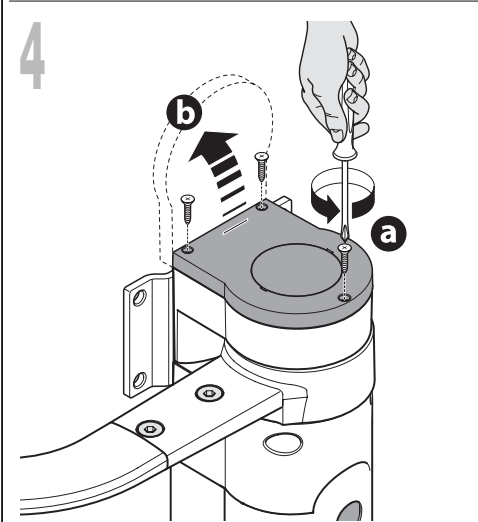
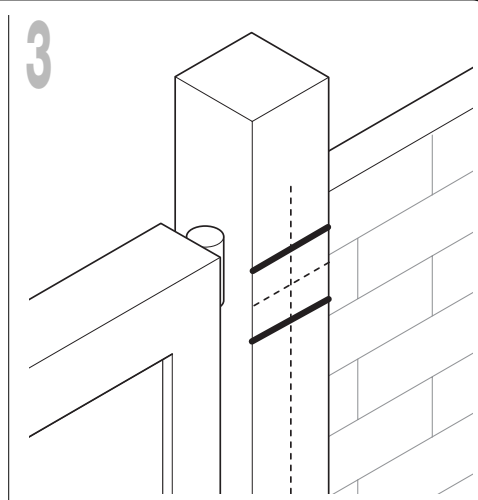
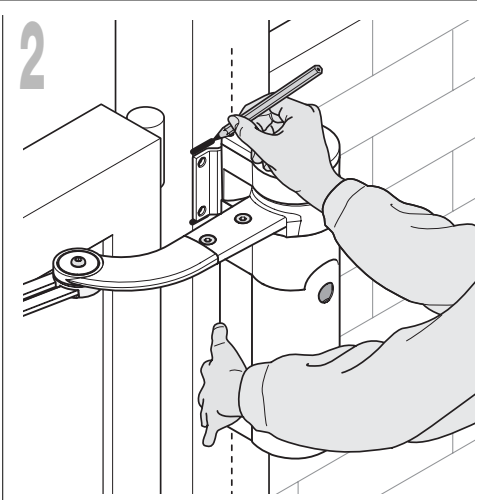
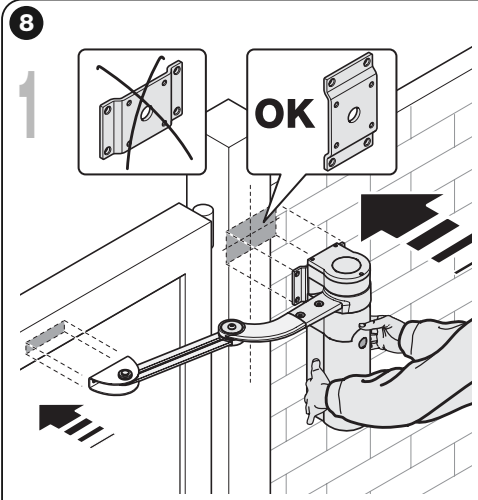
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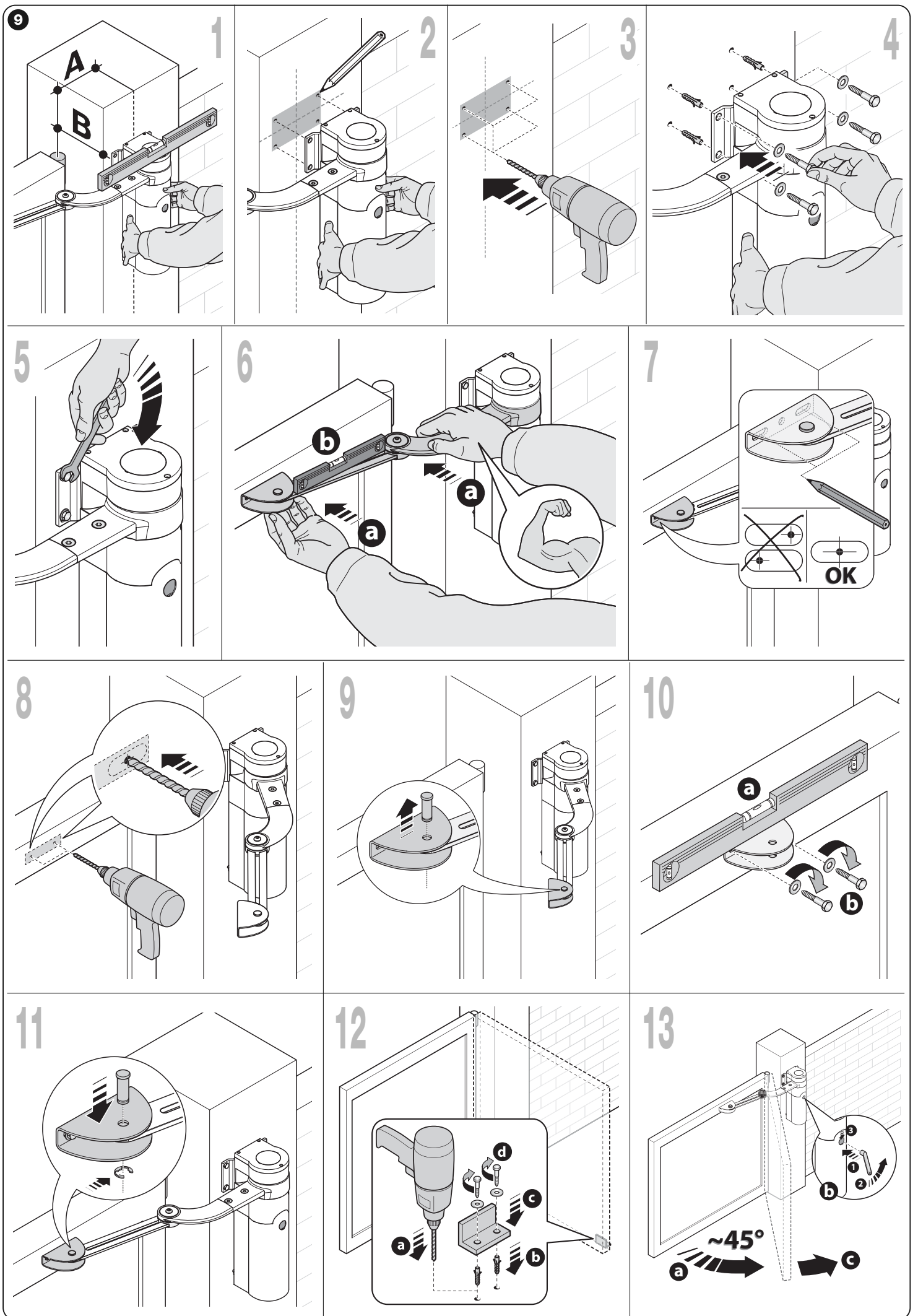
Oderzo, 29 May 2009

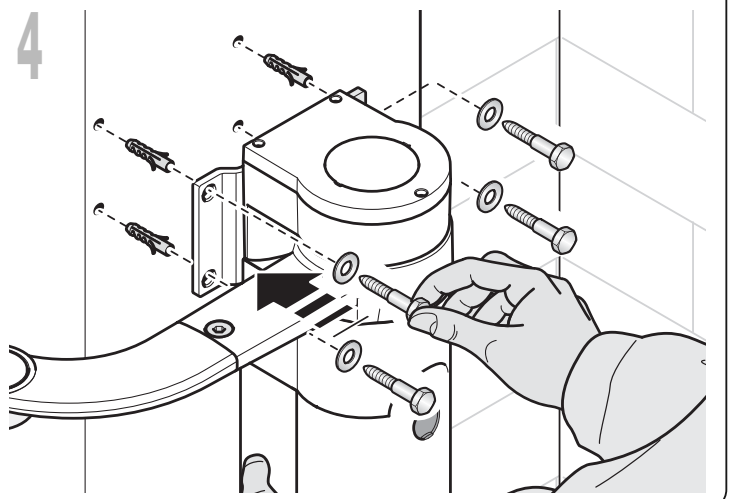
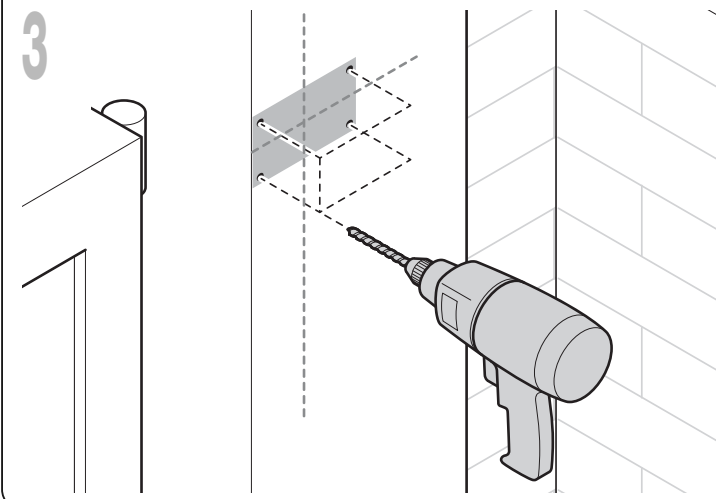
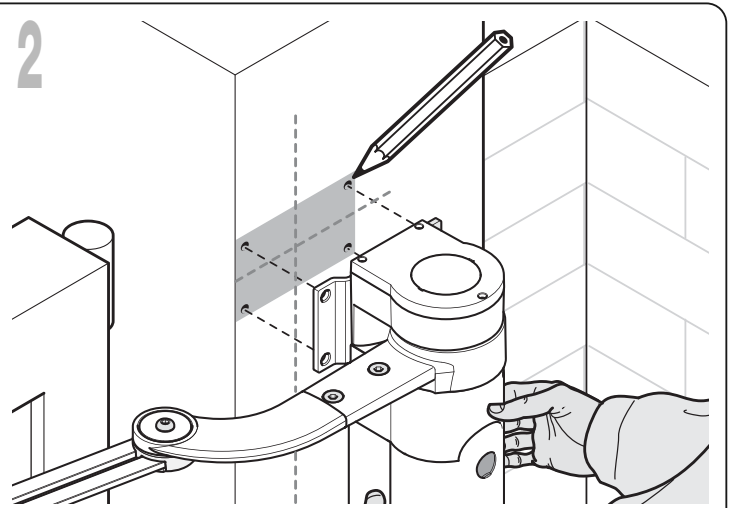
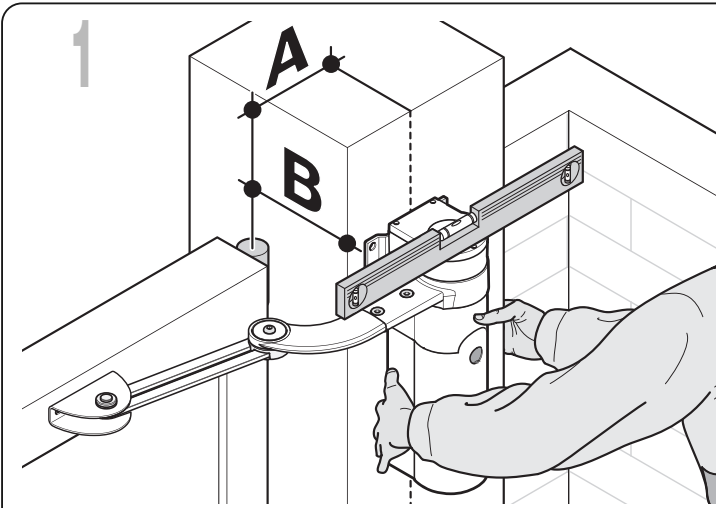
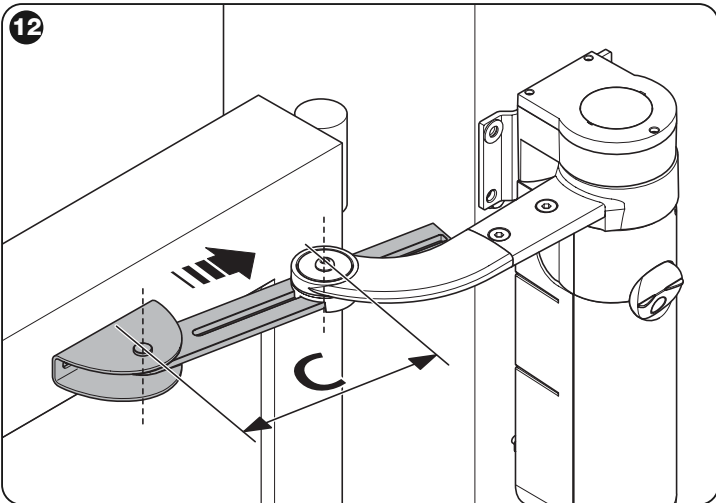
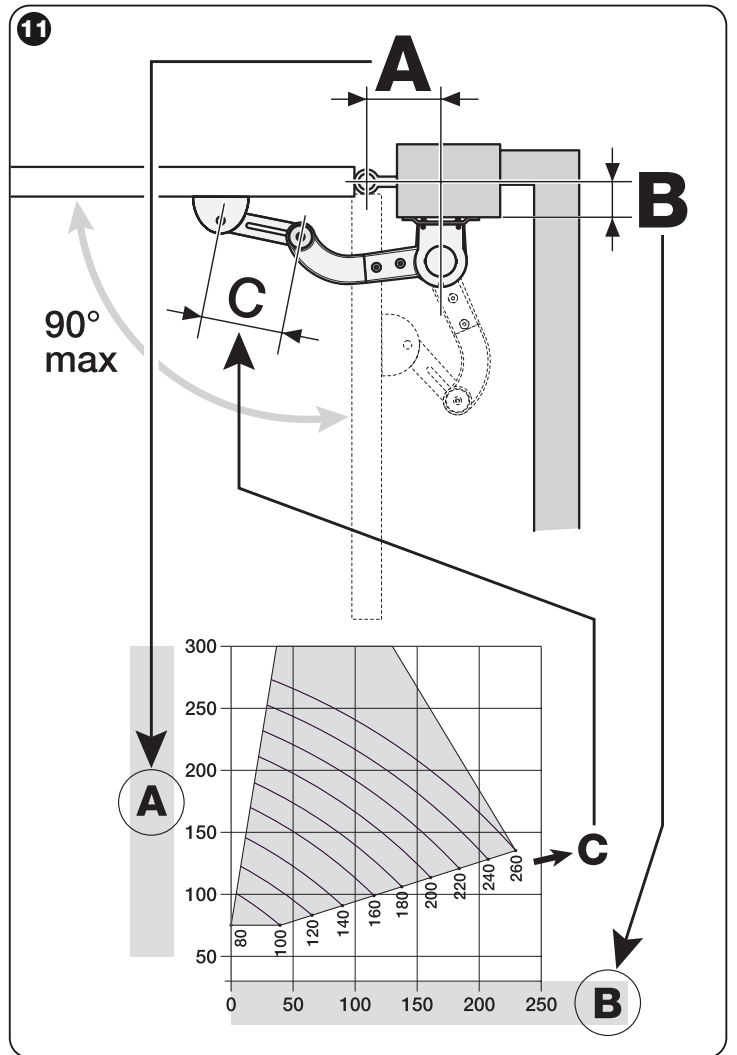
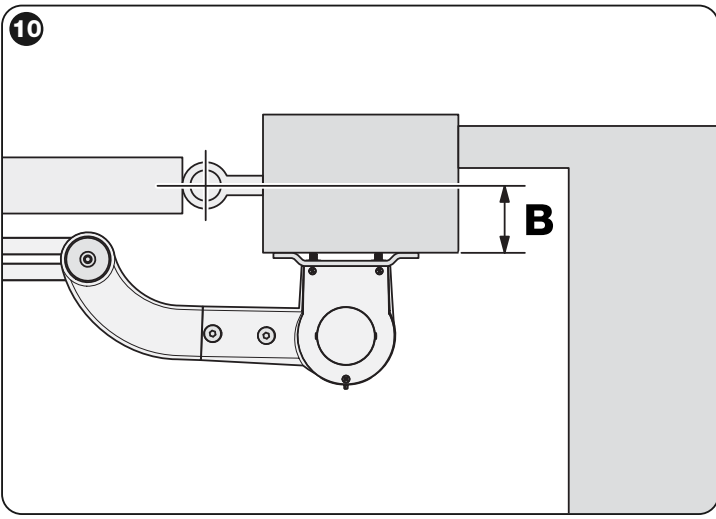
Luigi Paro (Managing Director)

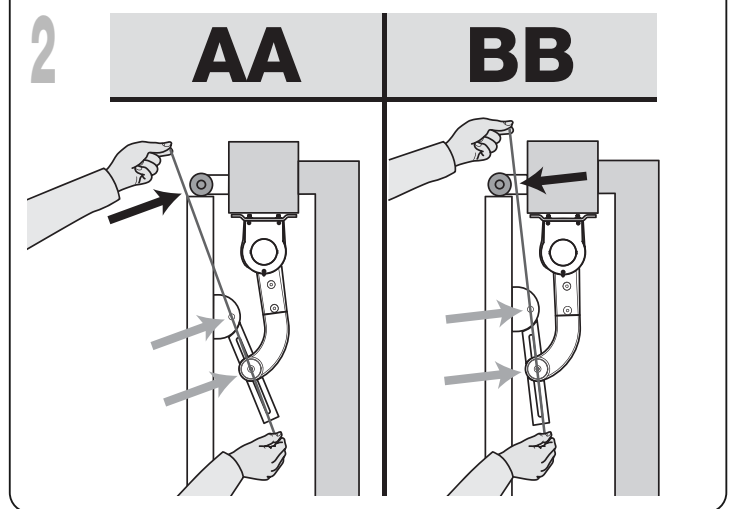
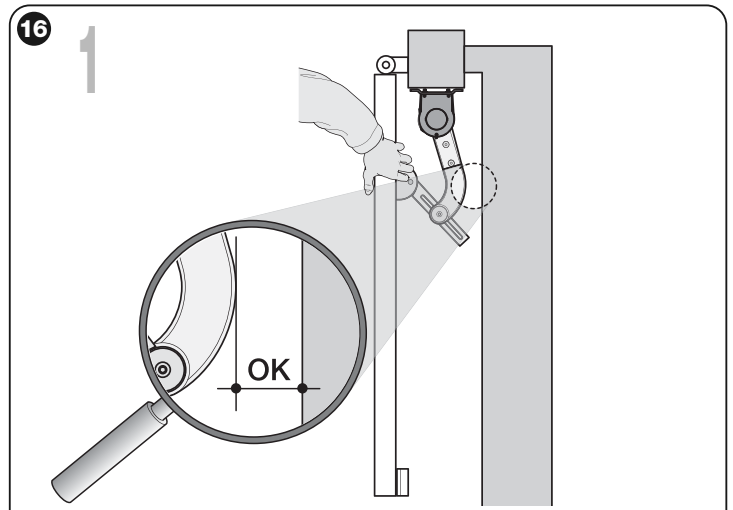
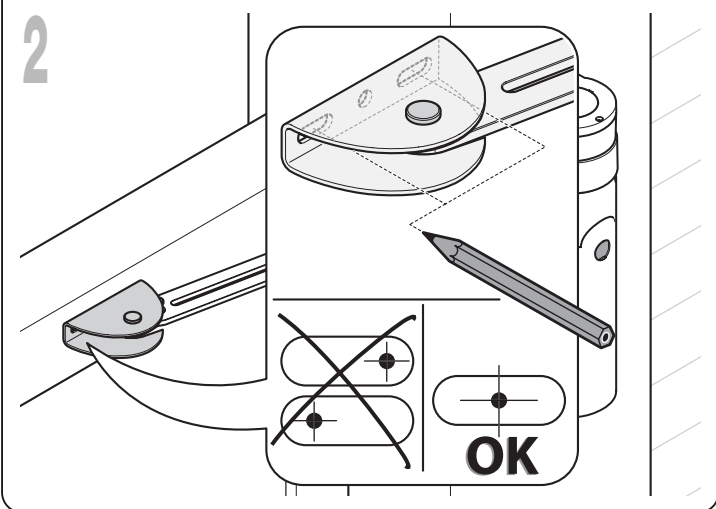
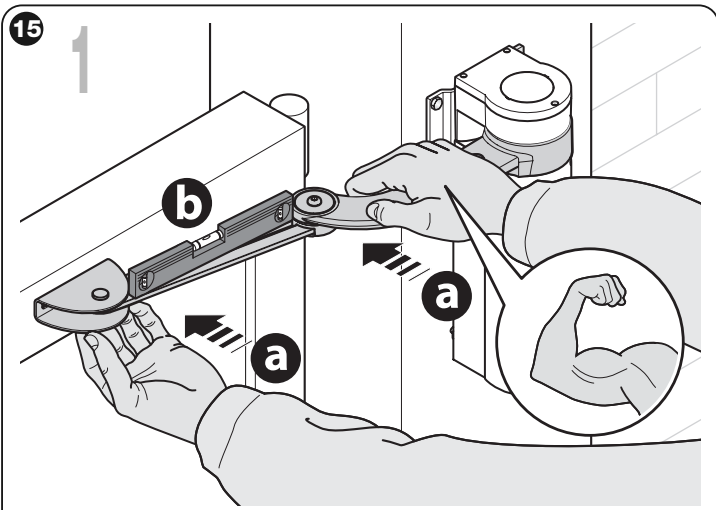
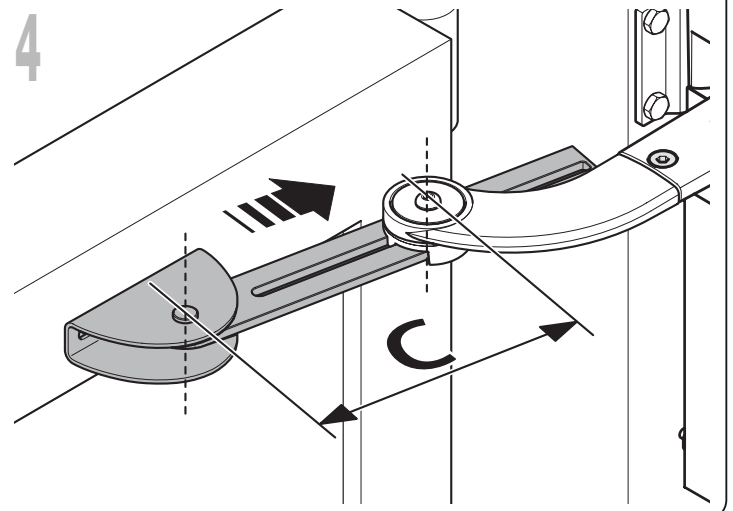
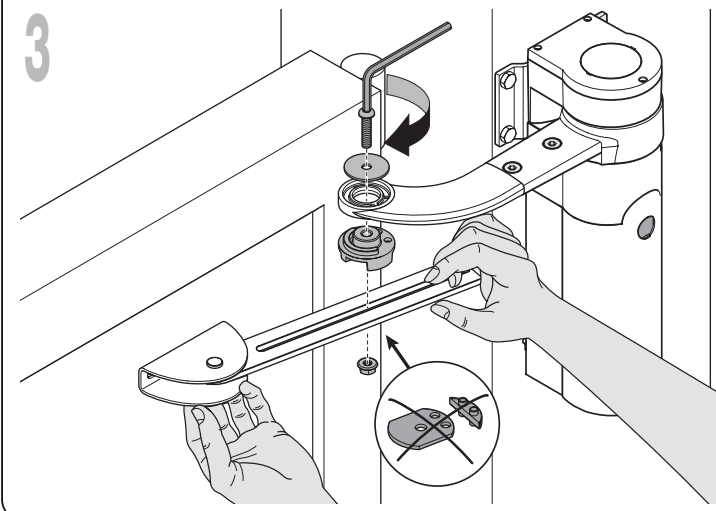
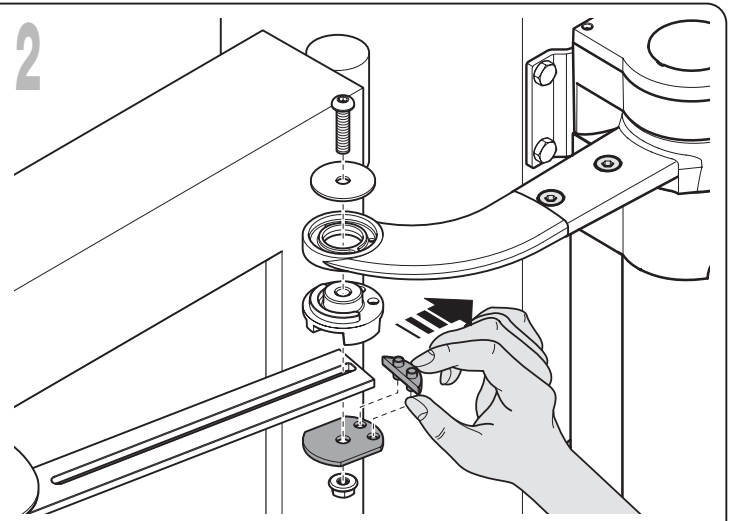
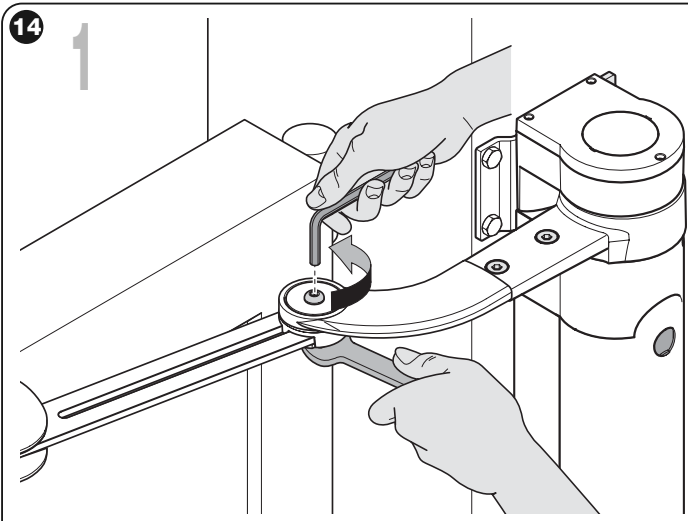


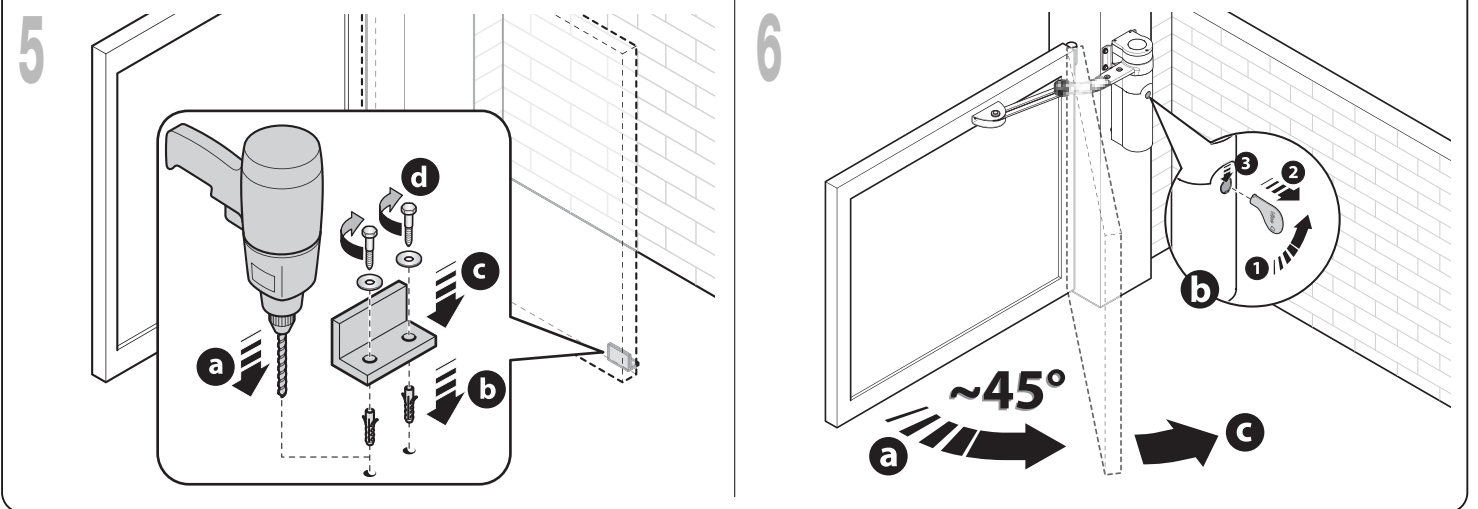
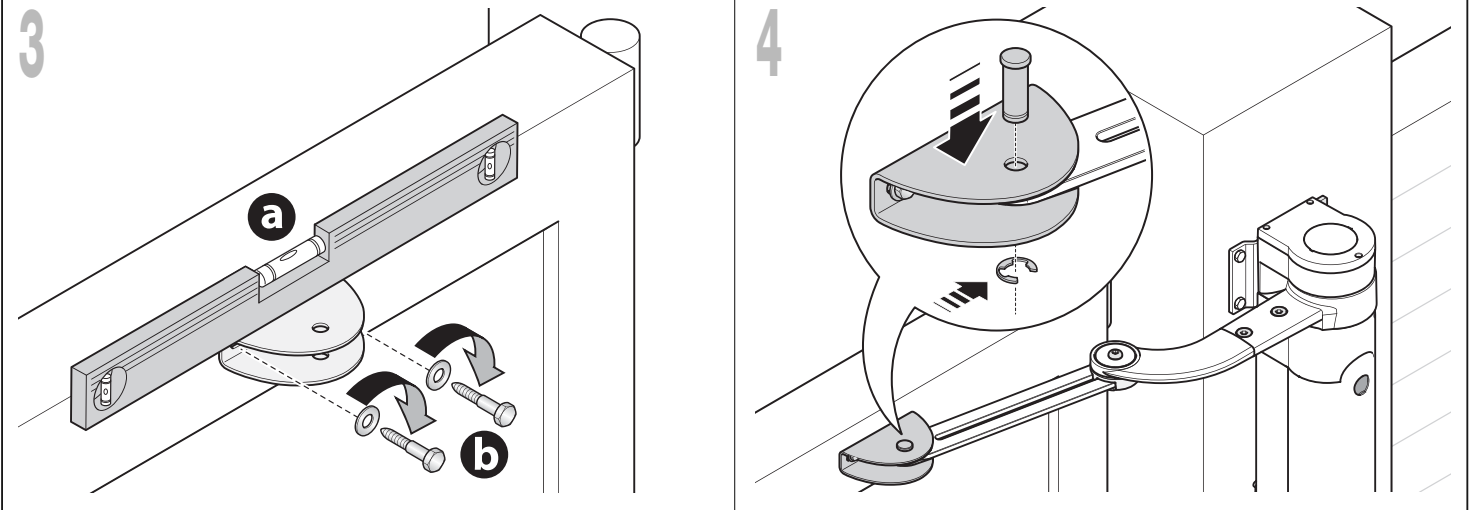
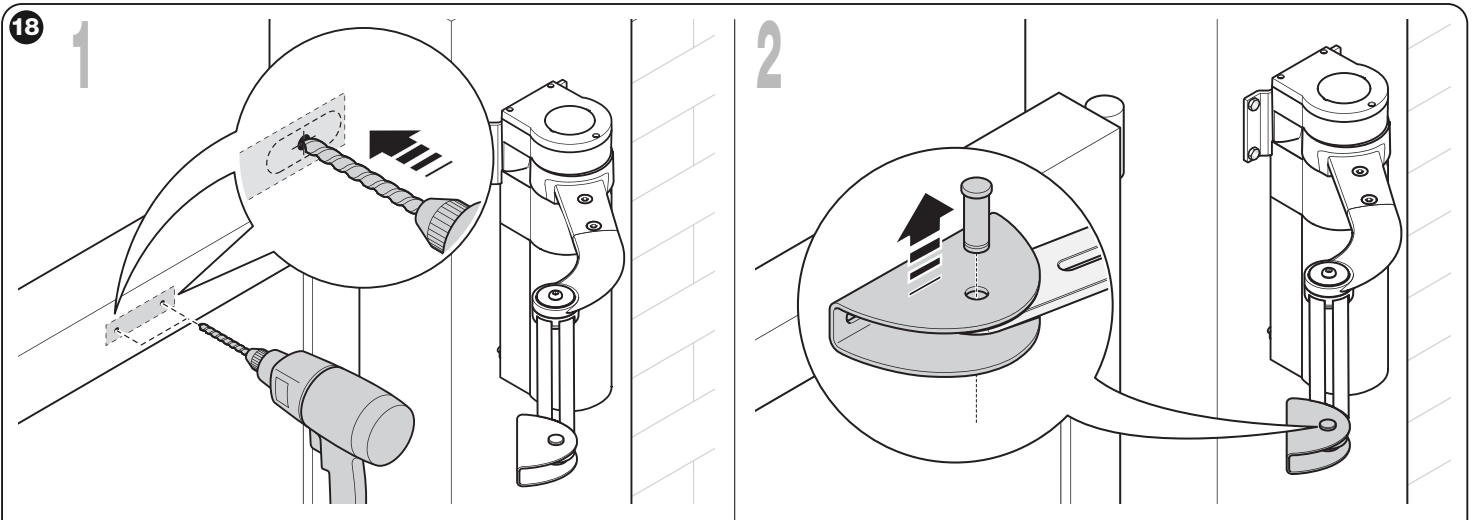
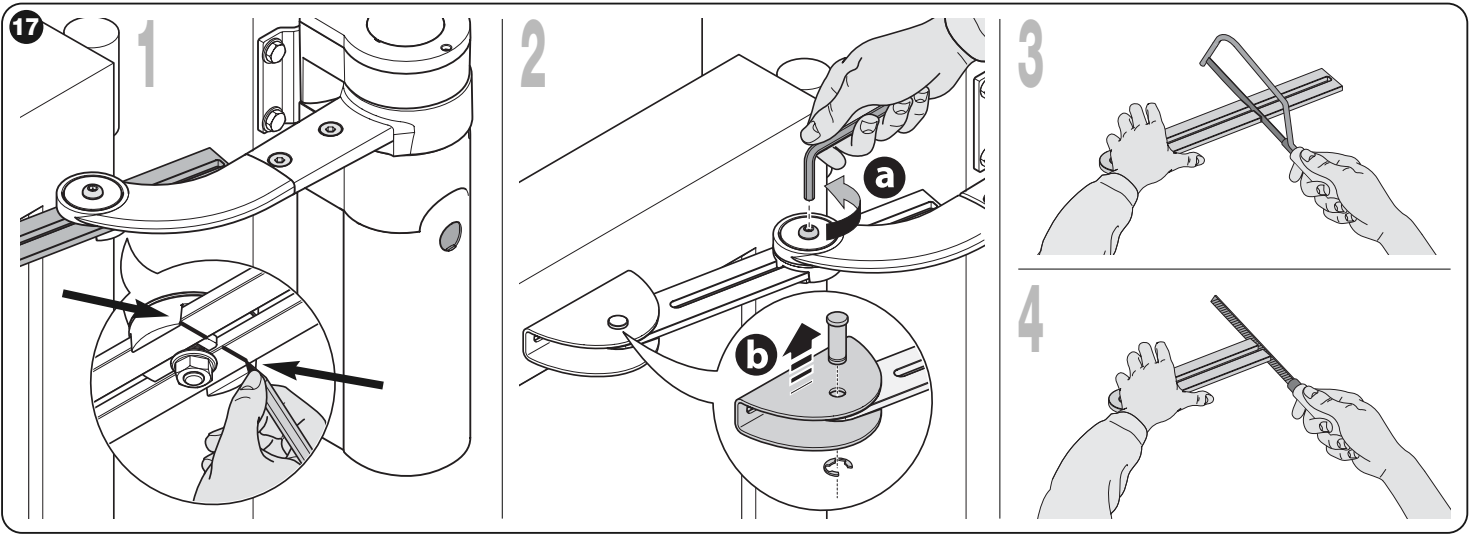


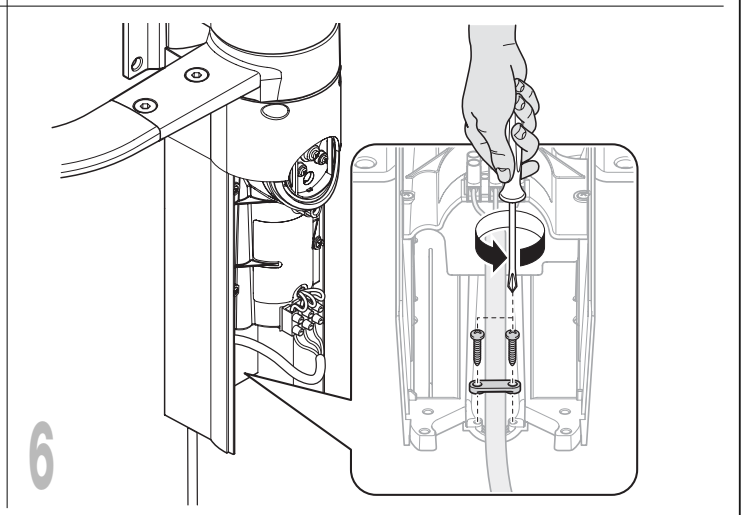
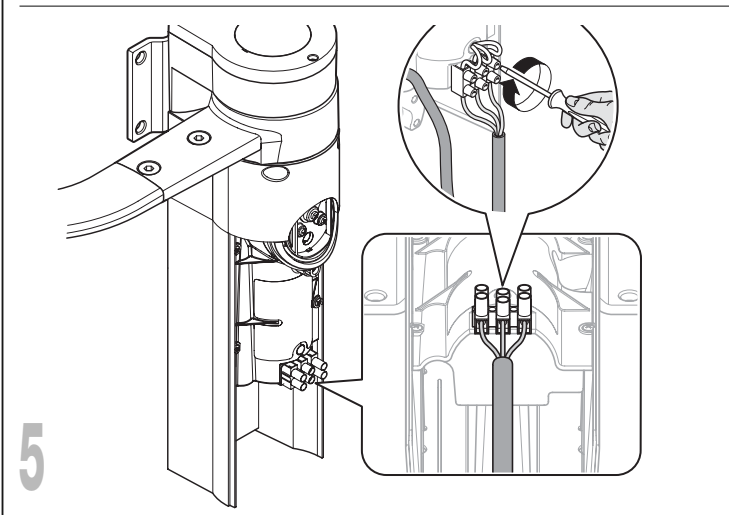
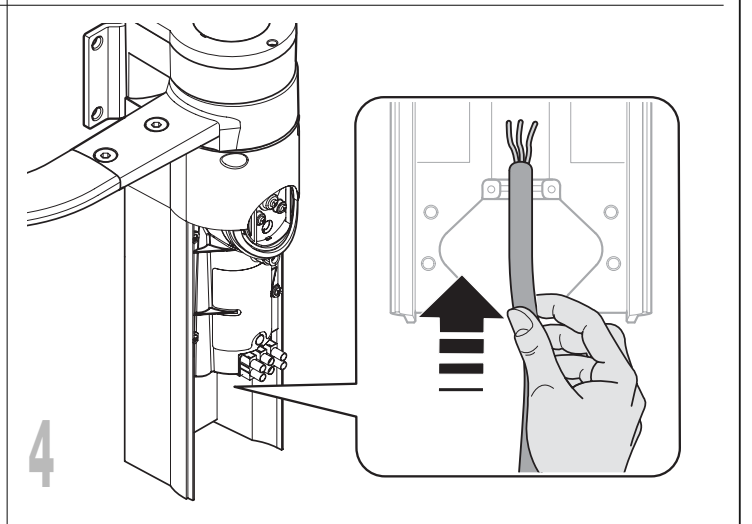
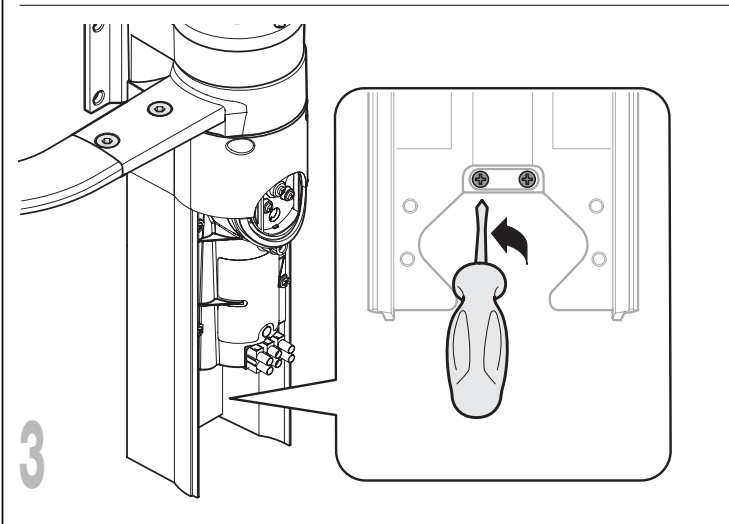
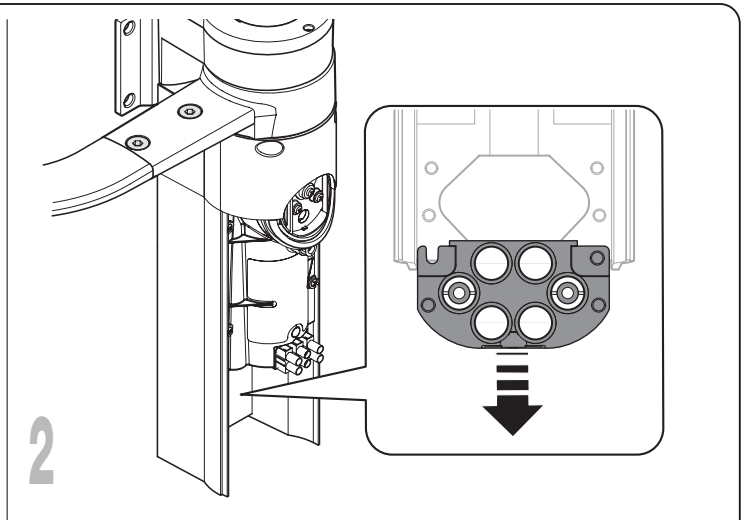
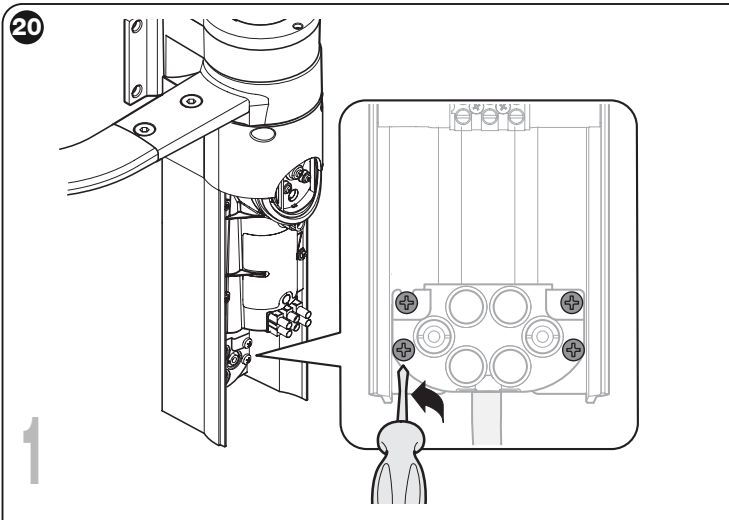
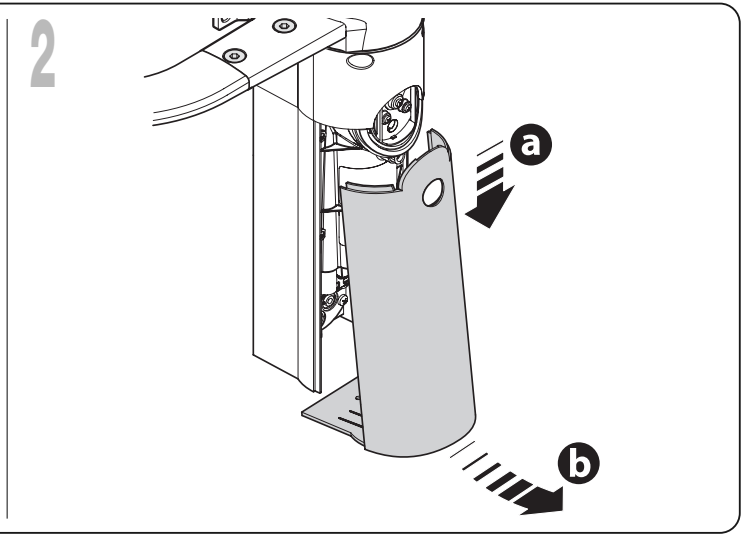
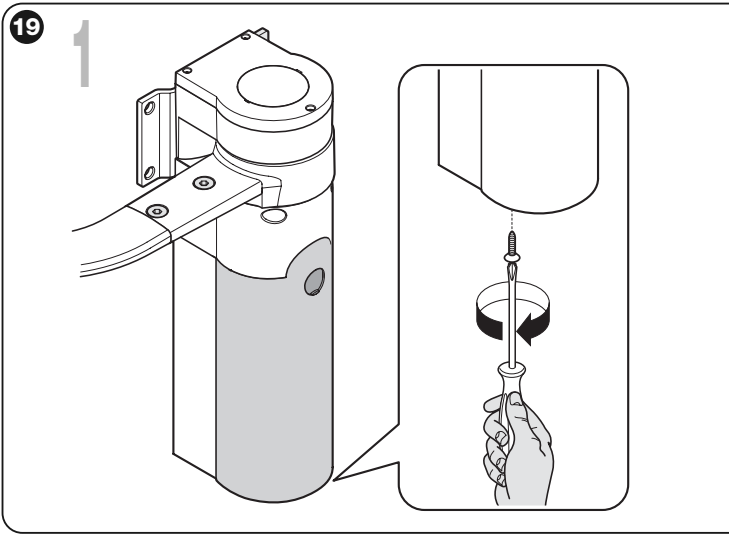




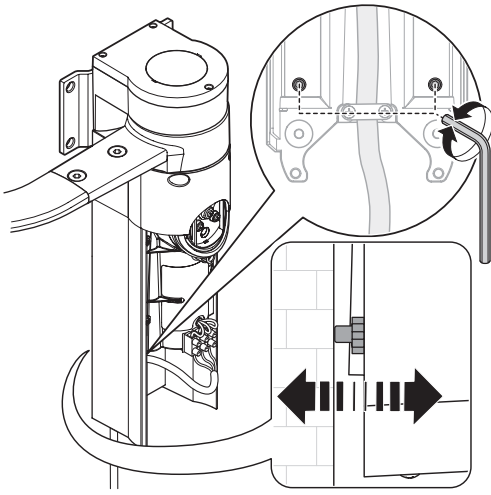




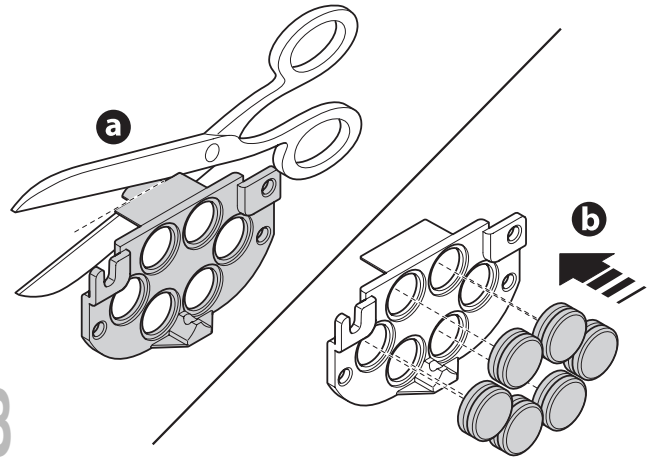




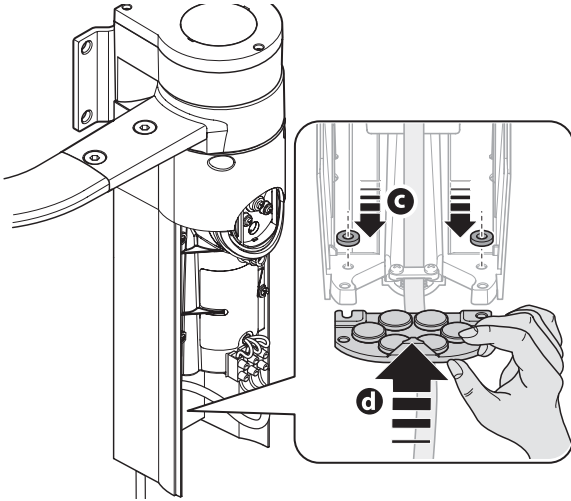
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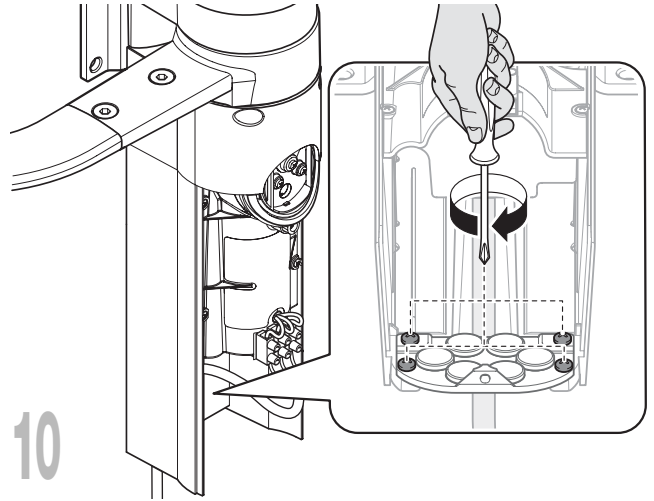
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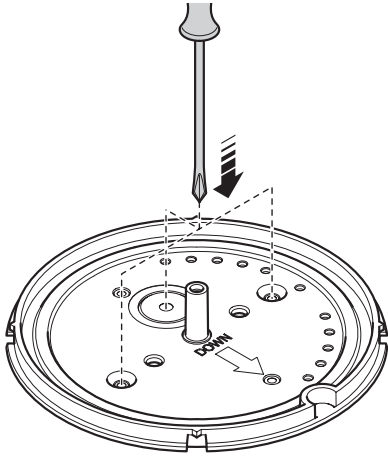


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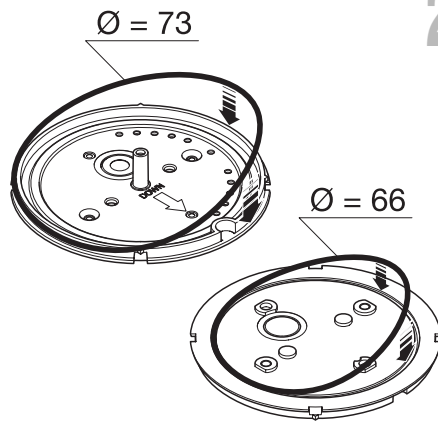


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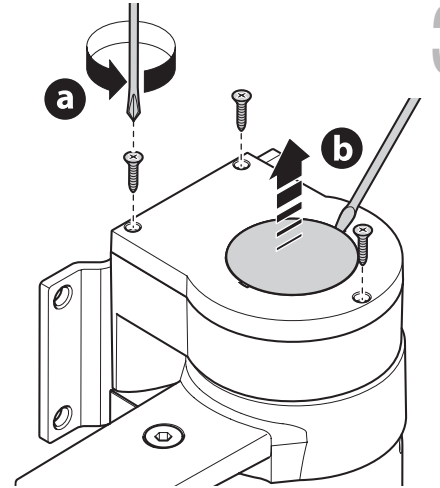
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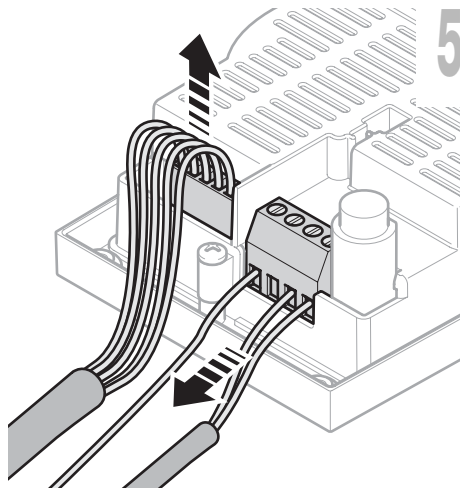
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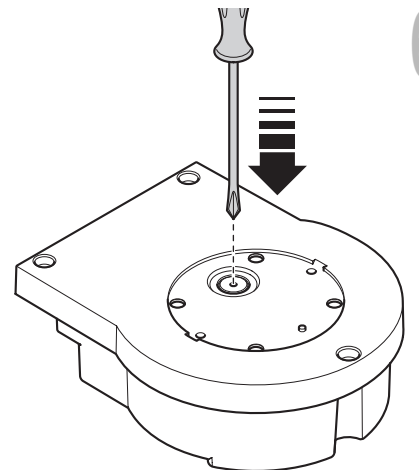
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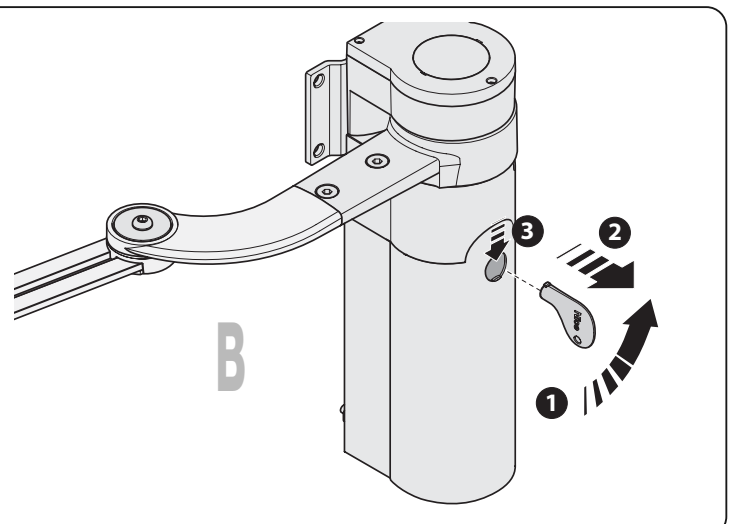
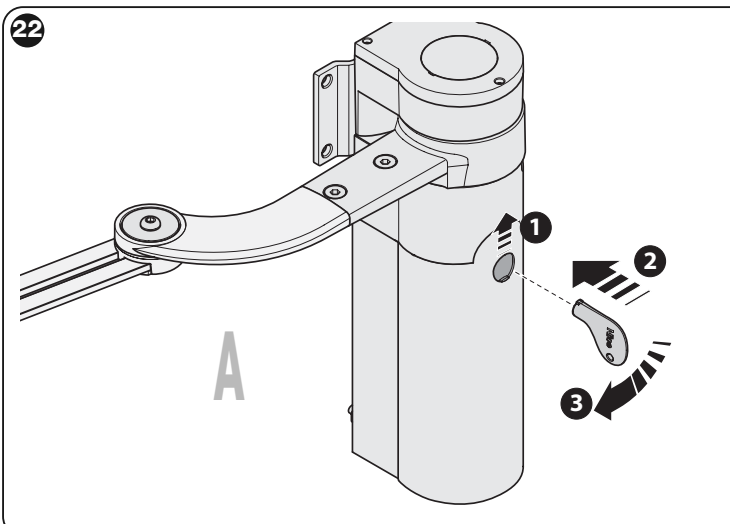
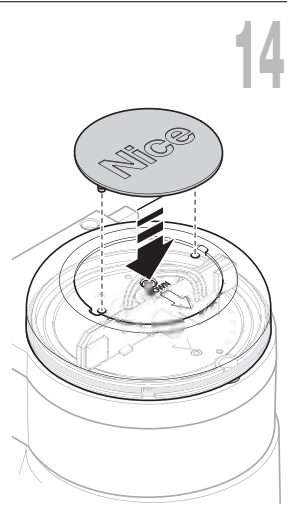
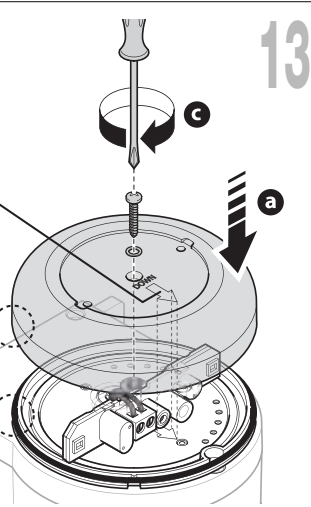
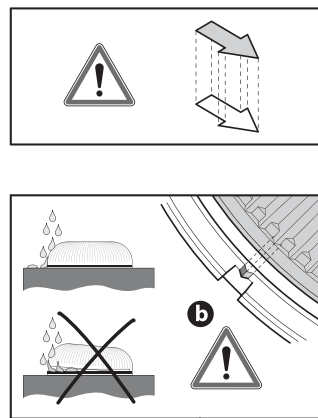
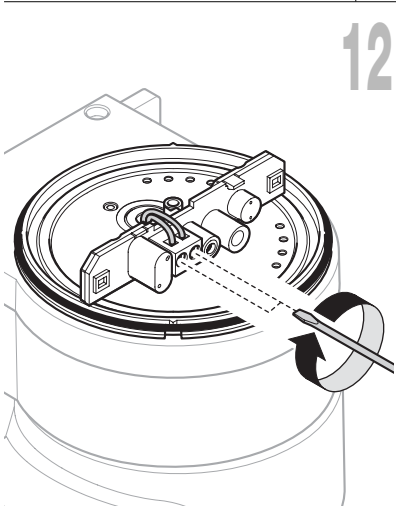
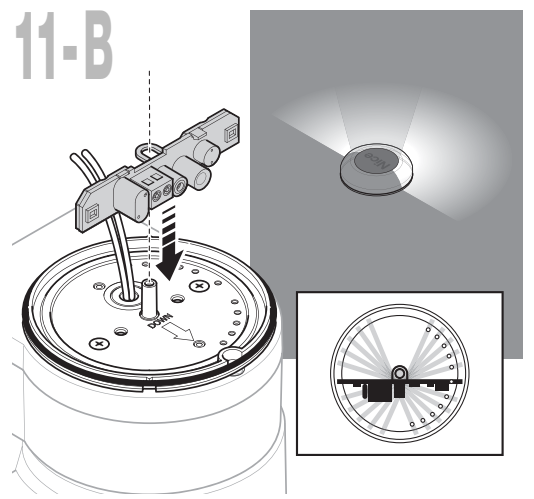
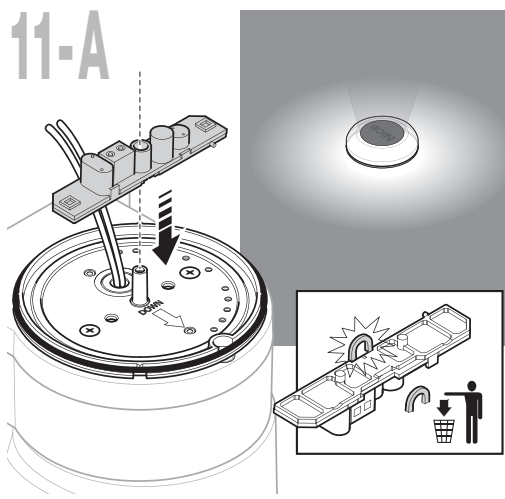
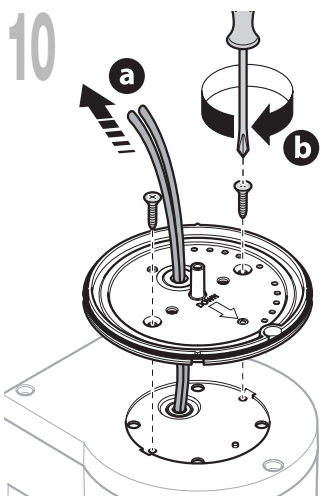
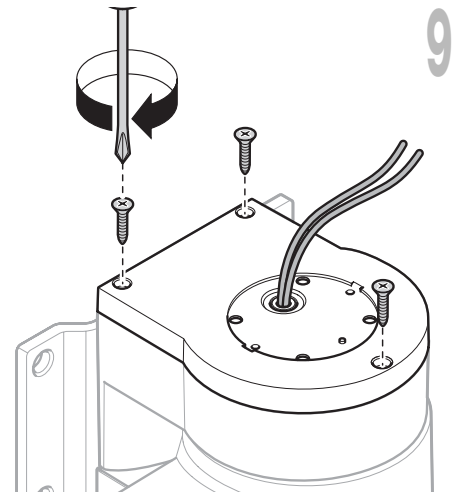
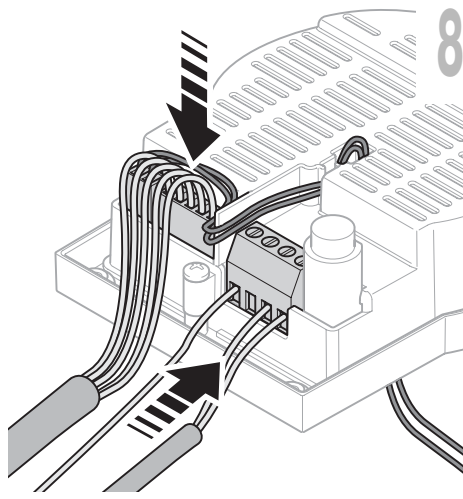
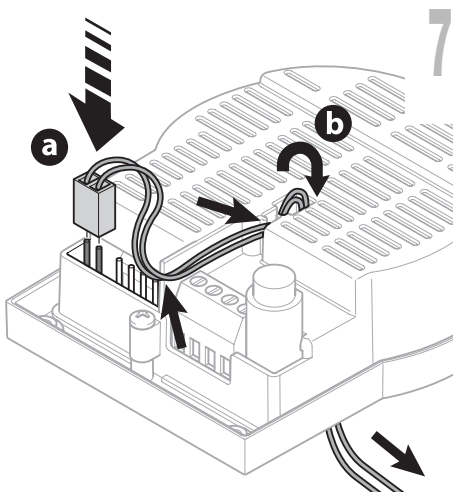


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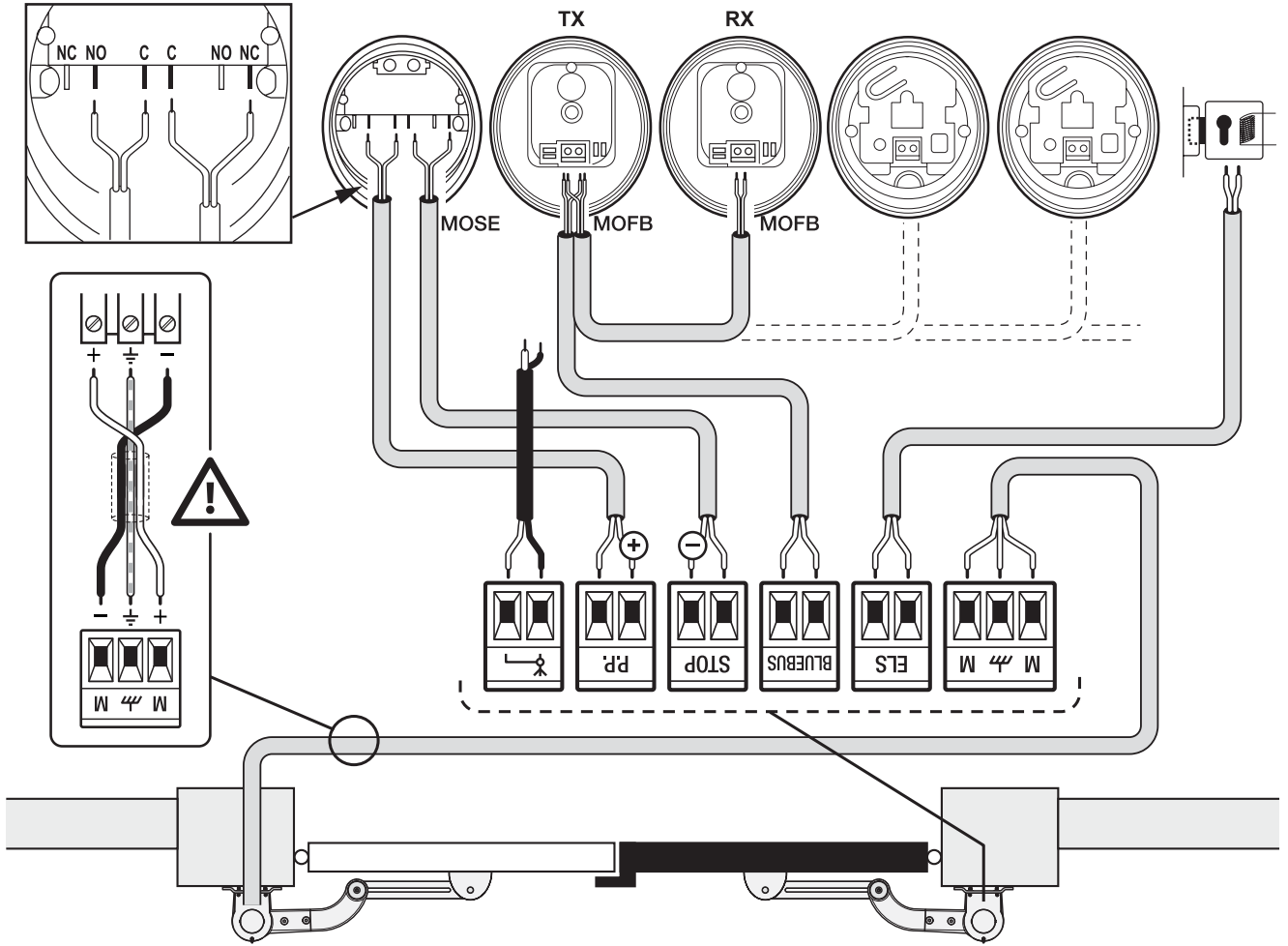


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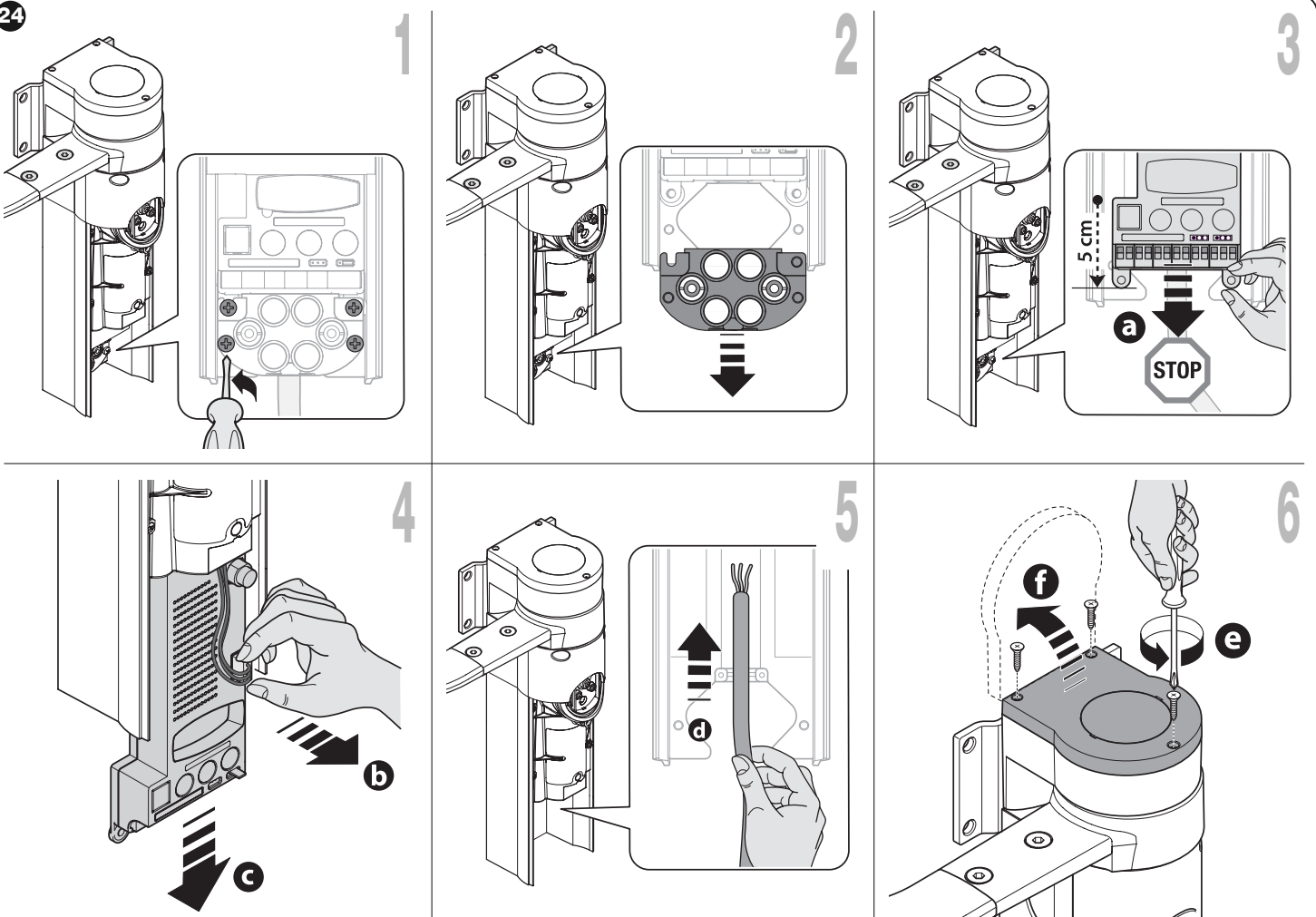


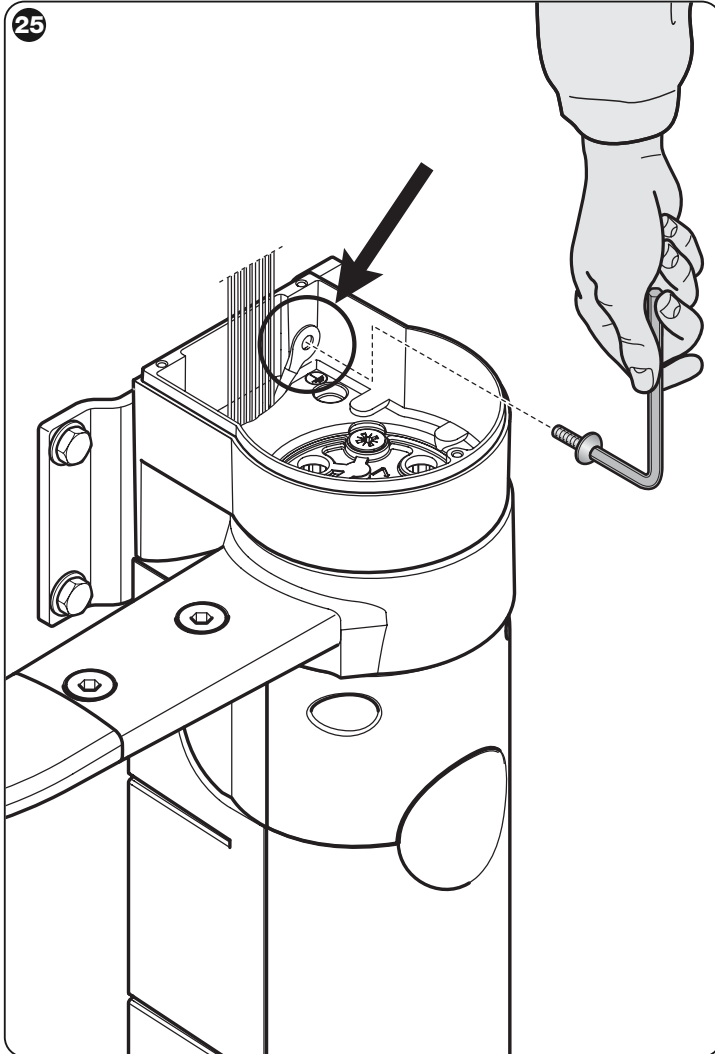
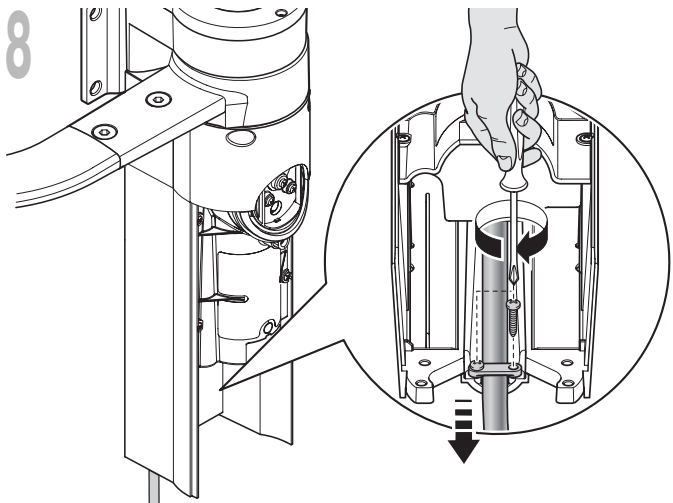
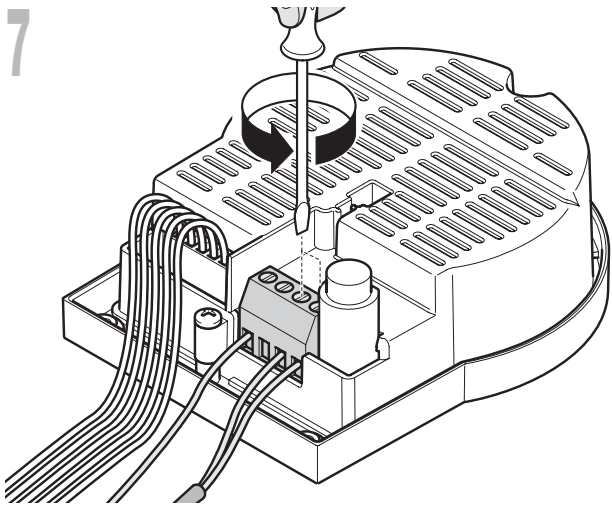


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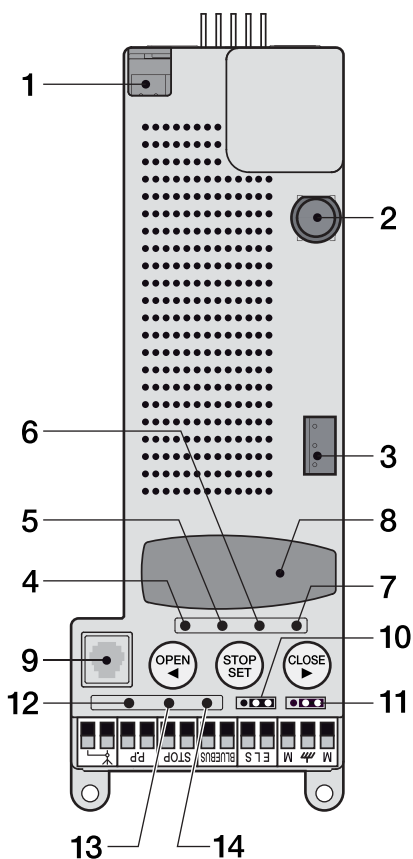


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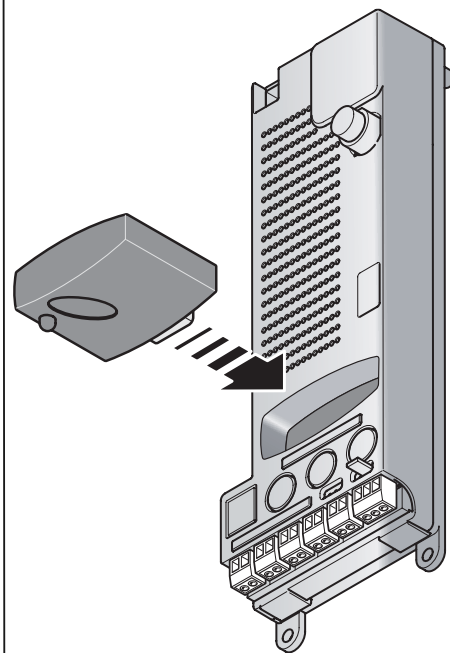


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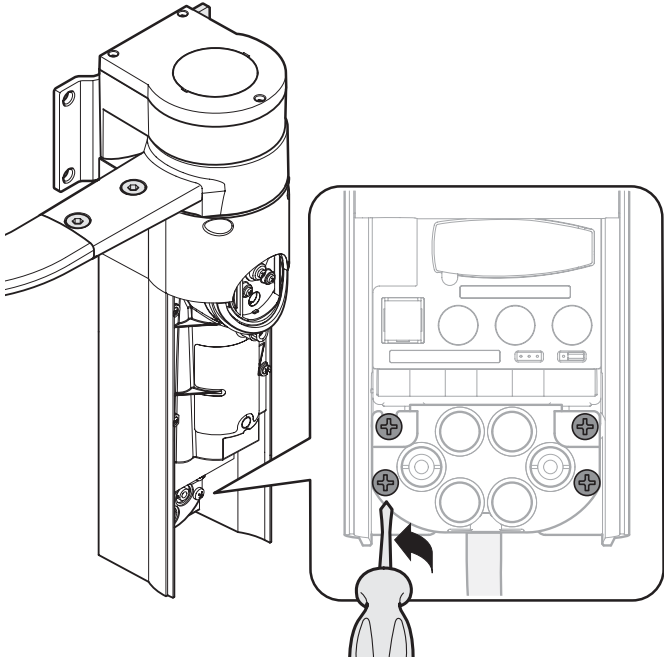


- 1 - **EN** Connector for battery / Solemyo photovoltaic power
• **IT** Connettore per batteria / alimentazione fotovoltaica Solemyo • **FR** Connecteur pour batterie / alimentation photovoltaïque Solemyo • **ES** Conector para batería / alimentación fotovoltaica Solemyo • **DE** Steckverbinder für Batterie / Versorgung durch Solarzellen Solemyo • **PL** Wtyczka dla akumulatora rezerwowego / zasilania fotowoltaicznego Solemyo • **NL** Connector voor batterij / fotovoltaische voeding Solemyo
- 2 - **EN** Fuse for control unit • **IT** Fusibile della centrale
• **FR** Fusible de la centrale • **ES** Fusible de la central
• **DE** Sicherung des Steuergeräts • **PL** Bezpiecznik centrali
• **NL** Zekering van de besturingseenheid
- 3 - **EN** Connector for motor • **IT** Connettore per motore
• **FR** Connecteur pour moteur • **ES** Conector para motor •
• **DE** Steckverbinder für Motor • **PL** Wtyczka silnika
• **NL** Connector voor motor
- 4 - **EN** Led L1 • **IT** Led L1 • **FR** Led L1 • **ES** Led L1
• **DE** Led L1 • **PL** Dioda Led L1 • **NL** Led L1
- 5 - **EN** Led L2 • **IT** Led L2 • **FR** Led L2 • **ES** Led L2
• **DE** Led L2 • **PL** Dioda Led L2 • **NL** Led L2
- 6 - **EN** Led L3 • **IT** Led L3 • **FR** Led L3 • **ES** Led L3
• **DE** Led L3 • **PL** Dioda Led L3 • **NL** Led L3
- 7 - **EN** Led L4 • **IT** Led L4 • **FR** Led L4 • **ES** Led L4
• **DE** Led L4 • **PL** Dioda Led L4 • **NL** Led L4
- 8 - **EN** Connector for receiver • **IT** Connettore per ricevitore
• **FR** Connecteur pour récepteur • **ES** Conector para receptor
• **DE** Steckverbinder für Empfänger • **PL** Wtyczka odbiornika
• **NL** Connector voor ontvanger
- 9 - **EN** BusT4 connector • **IT** Connettore BusT4 • **FR** Connecteur BusT4
• **ES** Conector BusT4 • **DE** Steckverbinder BusT4 • **PL** Wtyczka BusT4 • **NL** Connector BusT4
- 10 - **EN** Jumper JA • **IT** Jumper JA • **FR** Jumper JA • **ES** Jumper JA
• **DE** Jumper JA • **PL** Zworka JA • **NL** Jumper JA
- 11 - **EN** Jumper JB • **IT** Jumper JB • **FR** Jumper JB • **ES** Jumper JB
• **DE** Jumper JB • **PL** Zworka JB • **NL** Jumper JB
- 12 - **EN** Step-step LED • **IT** Led Passo passo • **FR** Led Pas à pas
• **ES** Led Paso a paso • **DE** Led Schrittfunktion
• **PL** Dioda Led Krok po Kroku • **NL** Stap voor stap led
- 13 - **EN** Stop LED • **IT** Led Stop • **FR** Led Stop • **ES** Led Stop
• **DE** Led Stop • **PL** Dioda Led Stop • **NL** Stop led
- 14 - **EN** Bluebus LED • **IT** Led Bluebus • **FR** Led Bluebus
• **ES** Led Bluebus • **DE** Led Bluebus • **PL** Dioda Led Bluebus
• **NL** Bluebus led

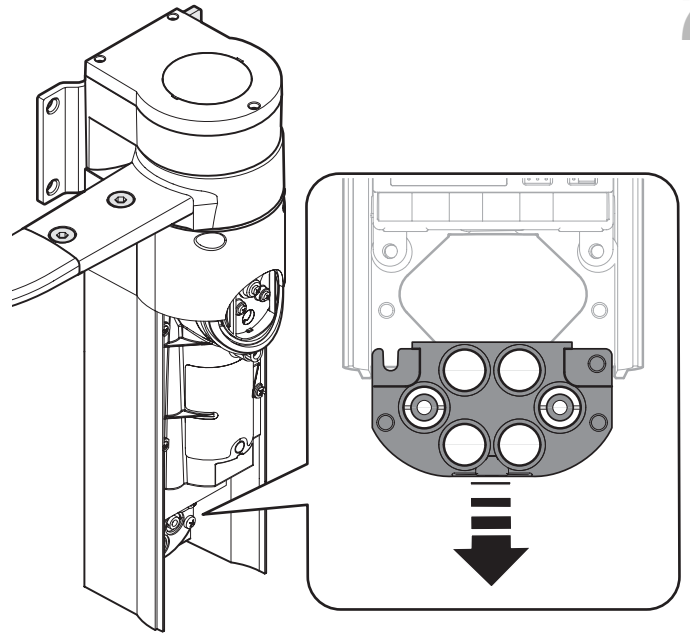
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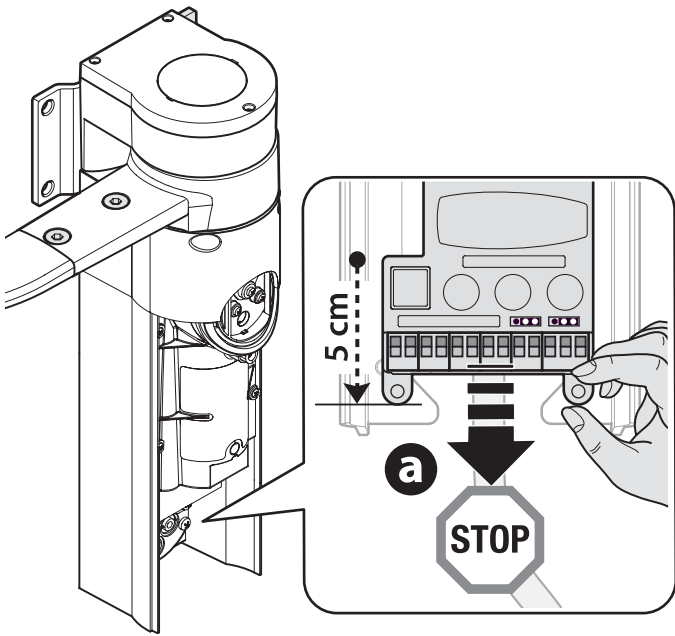
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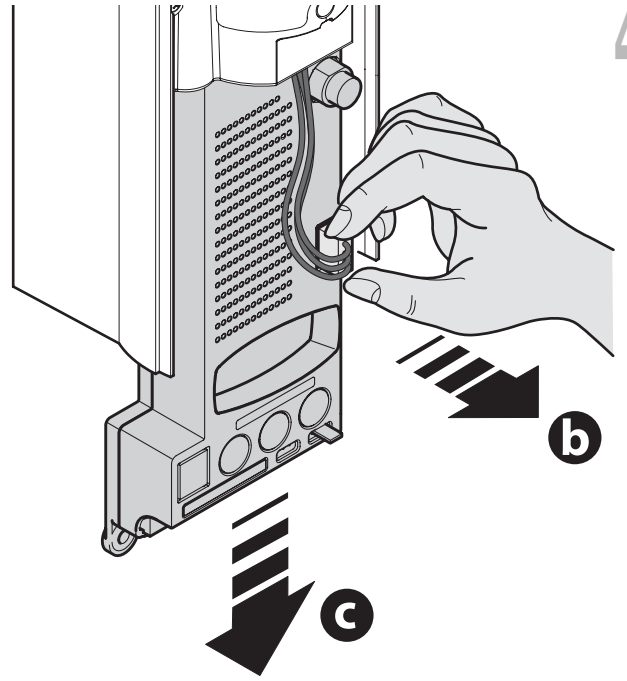
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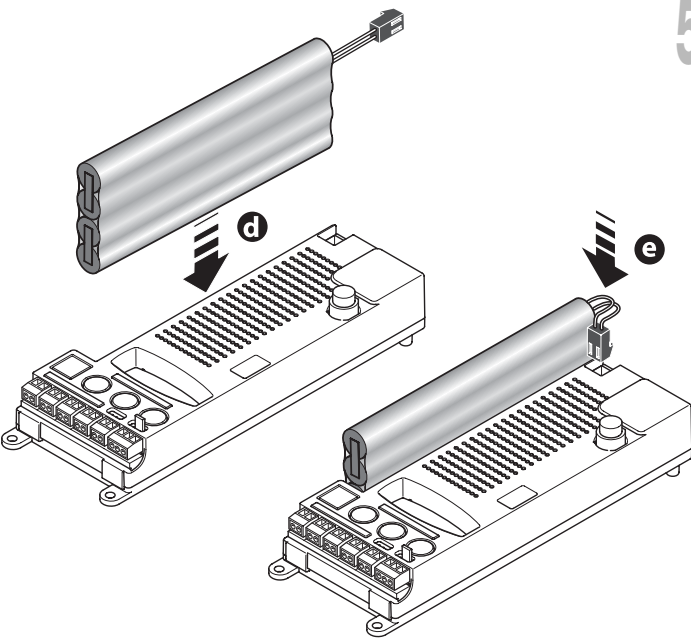
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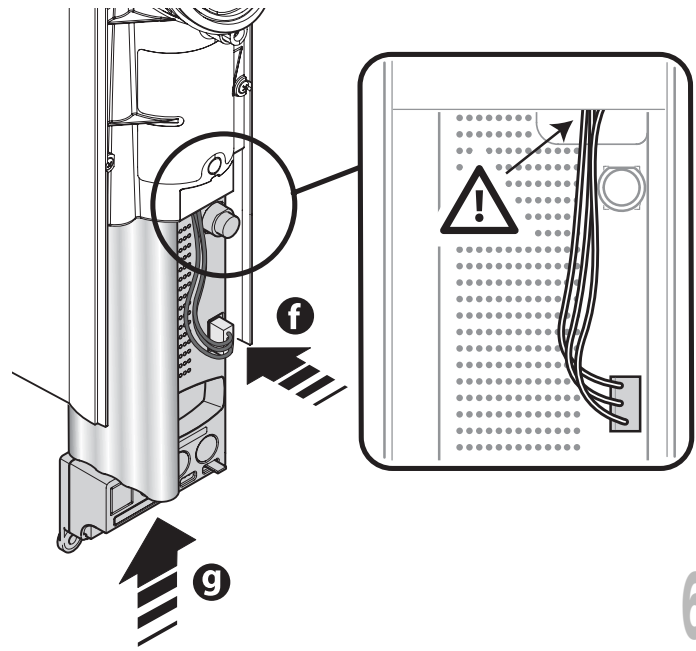
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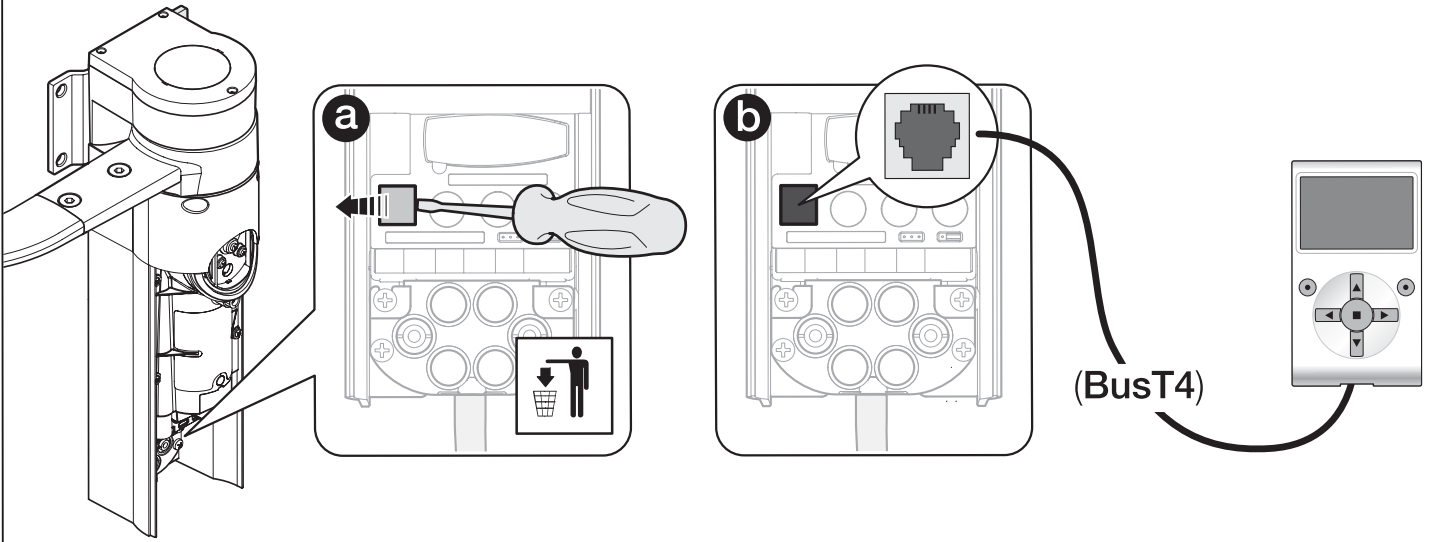
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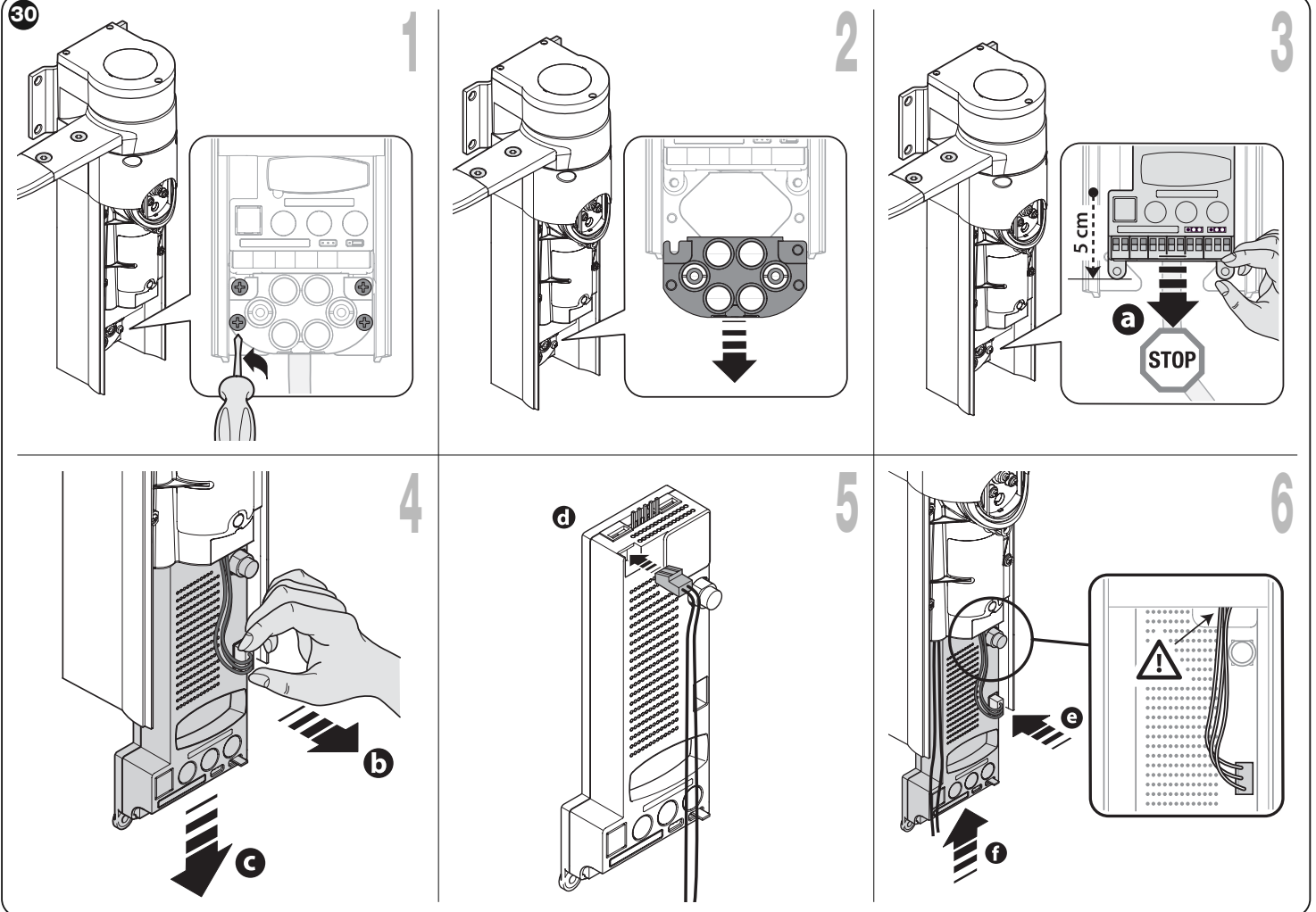
6



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