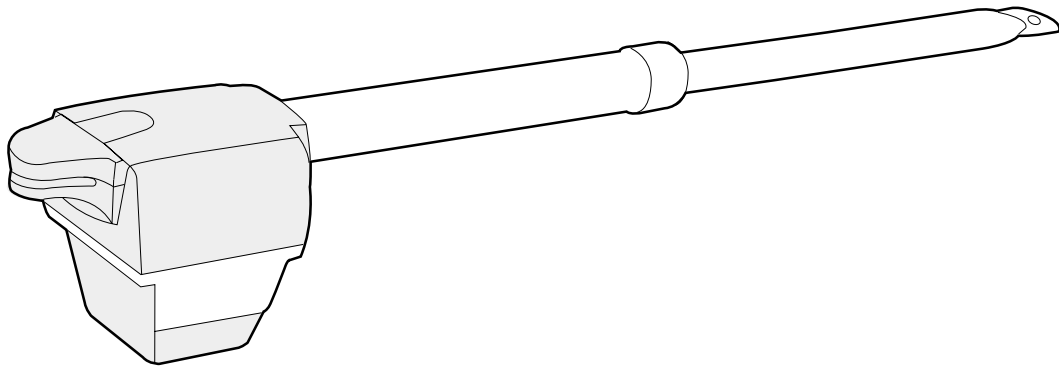


CHAMBERLAIN™

# LiftMaster™

PROFESSIONAL



ECO300K  
ECO300KS  
ECO400K  
ECO400KS

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- NL** voor service 020 684 7978

www.liftmaster.com  
Email: info@chamberlain.com

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PLEASE START BY READING THESE IMPORTANT SAFETY RULES • SAVE THESE INSTRUCTIONS

1-GB



This safety alert symbol means "Caution" - failure to comply with such an instruction involves risk of personal injury or damage to property. Please read these warnings carefully.



This gate drive mechanism is designed and tested to offer appropriately safe service provided it is installed and operated in strict accordance with the following safety rules.

*Incorrect installation and/or failure to comply with the following instructions may result in serious personal injury or property damage.*



*When using tools and small parts to install or carry out repair work on a gate exercise caution and do not wear rings, watches or loose clothing.*



It is important to make sure that the gate always runs smoothly. Gates which stick or jam must be repaired immediately. *Employ a qualified technician to repair the gate, never attempt to repair it yourself.*



Installation and wiring must be in compliance with your local building and electrical installation codes. Power cables must only be connected to a properly earthed supply.



*Keep additional accessories away from children. Do not allow children to play with pushbuttons or remote controls. A gate can cause serious injuries as it closes.*



*Any entrapment possibility by the moving wing between wing & walls must be secured with safety edges or IR-sensors.*



*Disconnect electric power to the system before making repairs or removing covers.*

A disconnecting device must be provided in the permanently-wired installation to guarantee all-pole disconnection by means of a switch (at least 3mm contact gap) or by a separate fuse.



Please remove any locks fitted to the gate in order to prevent damage to the gate.



Make sure that people who install, maintain or operate the gate drive follow these instructions. *Keep these instructions in a safe place so that you can refer to them quickly when you need to.*



After the installation a final test of the full function of the system and the full function of the safety devices must be done.



This drive cannot be used with a gate incorporating a wicket door unless the drive cannot be operated with the wicket door open.



*The full protection against potential squeeze or entrapment must work direct when the drive arms are installed.*

Contents: General advice on installation and use:

Content of the carton: Page 1 figures **1** + **2**

Before you begin: Page 2

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Gate types/installation height: Page 2, figure **4** A-F

Gate configuration:

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Page 2, figure **7**

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CONTENT OF THE CARTON ECO300KS/ECO400KS **1**

- (1) Motor
- (2) Electronic Control
- (3) Postbracket
- (4) Key
- (5) Gate fixing bracket
- (6) Capacitor
- (7) Manual
- (8) Clevis pin and rings
- (9) 3-Channel remote control 2x
- (10) IR Sensor
- (11) Hexagonal key

CONTENT OF THE CARTON ECO300K/ECO400K **2**

- (1) Motor 2x
- (2) Electronic Control
- (3) Postbracket 2x
- (4) Keys 2x
- (5) Gate fixing bracket 2x
- (6) Capacitor 2x
- (7) Manual
- (8) Clevis pin and rings 2x
- (9) 3-Channel remote control 2x
- (10) IR Sensor

## BEFORE YOU BEGIN

The drive mechanism needs room to the side permitting correct installation of drive arms. Please make sure that this is available. Gates affected by high wind loads must also be protected by an (electric) lock.

There are many factors to consider when choosing the right drive mechanism. Assuming that a gate functions properly, "startup" is the most difficult phase, once the gate is in motion, significantly less force is usually required to move it.

- **Gate size:** Gate size is a very important factor. Wind can brake or distort the gate, thereby increasing the amount of force needed to move it considerably.
- **Gate weight:** The weight of the gate is not as relevant as the size.
- **Effect of temperature:** Low outdoor temperatures can make initial startup more difficult (changes in the ground, etc.) or even prevent it. High outdoor temperatures along with frequent use can trigger thermal protection prematurely (approx. 135 °C).
- **Operating frequency/operating time:** Drive mechanisms are designed for a maximum operating time (running time) of approximately 30% (e.g. 30% during any one hour).

**IMPORTANT:** The drive mechanism is not designed to operate continuously at its maximum operating time (non-stop operation). Otherwise the drive mechanism becomes too hot and switches off until it cools down to the switch-on temperature. *The outdoor temperature and the gate are important parameters that affect the actual operating time.*

## INSTALLATION CHECKLIST - PREPARATIONS

Check the carton contents and read the instructions carefully. Make sure your gate equipment operates perfectly. The gate must run evenly and smoothly and must not stick at any point. Remember that the ground level may be several centimeters higher in winter. The gate must be stable and as free of backlash in order to prevent any unwanted movement. The more smoothly the gate wing runs, the more sensitive the force adjustment must be.

Write down any materials you still need and obtain them before starting to install. Heavy-duty plugs, bolts, gate stops, cables, distribution boxes, tools, etc.

## GATE TYPES

The gate type determines the location where the drive mechanism is installed. If the gate stop is on the ground, the drive mechanism must also be installed at a height that is as low as possible so that it cannot twist the gate. Use only parts of the gate frame for fixing purposes.

For steel gates, the gate fitting must be attached to the main frame. If you are uncertain whether the available support is sufficiently stable, reinforce it.

In the case of wooden gates, the gate fitting must be bolted through. It is advisable to fit a plate from the outside so that the fixing brackets cannot become loose over time. Thin wooden gates must also be reinforced in order to withstand the stresses encountered.

## GATE CONFIGURATION

### How far must the gate wing open?

90 degrees or up to 115 degrees. An opening angle in excess of 115 degrees is possible but is not recommended. Reason: the drive mechanism always runs at the same speed. The further the gate has to be opened, the faster the wing must travel. Movement becomes more erratic and this subjects the fittings and gate to extreme stresses. Different opening angles cause one motor to reach its destination first, but continues to run, thereby forcing the gate up against the gate stop until the other motor eventually reaches its end position.

## GATE STOPS

**A SWING GATE NEEDS A FIXED GATE STOP IN BOTH THE OPEN AND CLOSE POSITIONS.** Gate stops save wear and tear on the motor, gate and fittings. Operating a gate without fixed limit stops results in poor performance. It is often dangerous, leads to premature wear and voids your warranty!

## POST FIXING BRACKET

*Choosing the correct location for the post fixing bracket has a decisive impact on the subsequent functioning of the system.* It determines the distance between the motor's centre of motion and the gate's centre of motion and hence the opening angle. These dimensions are referred to as **dimension A** and **dimension B**. Do not underestimate the effect that these dimensions have on correct functioning and running. Try to achieve the best possible dimension for your opening angle that is suitable for all circumstances. See Table for dimensions A/B.

If the post is not wide enough, an extension piece must be fitted to it. If the post is too thick, cut out part of it to make it thinner or offset the gate.

To obtain ideal dimensions, it may be necessary to shorten or lengthen the supplied hinge plate. In the case of gates that are to be custom made, if the gate hinges are fitted on the posts appropriately, it is possible to influence dimensions A and B. Before the final mounting dimensions are determined, you should always check whether or not there is any possibility that the corner of the drive mechanism will hit the post as the gate swings.

**INSTALLATION:** The drive mechanism exerts considerable force against the post. Usually, acceptable mounting dimensions are obtained if the supplied hinge plate is welded directly onto the post. In the case of thick stone or concrete posts, the hinge must be welded to a base plate and attached so that the plugs cannot work loose during operation. Heavy-duty plugs where a threaded rod is bonded into the masonry stress-free are more suitable for this purpose than steel or plastic straddling plugs. In the case of brickwork pillars, bolt a relatively large steel plate that covers several bricks on to it and then weld the hinge plate to it. An angled plate attached over the corner of the post is also a good means of fixing the operators.

## GATE FITTING

The gate fitting must be installed so that it is horizontal relative to the post bracket. The distance between the gate bracket and post bracket is referred to as the "arm span". When the gate is closed, the drive mechanism is 95% extended. When the gate is opened, the drive mechanism is 5% extended. Fully retracting or extending the plunger/spindle in operation (with gate) damages the drive mechanism and voids the warranty. It is absolutely imperative to comply with the required arm span under all circumstances!

For steel gates, fixings should be welded on or through bolted. When through bolting the gate, use large washers or a plate on the other side. The drive mechanism exerts an extremely high force on this joint.

Fixings must be through bolted for wooden gates. It is recommended that metal plates be fitted on either side of the gate, to prevent the fixings from becoming loose.

## RELEASE

The drive mechanism can be released. The gate can then be opened and operated manually (power failure). With a new drive mechanism, the release action may sometimes feel stiff/jerky. This is normal and has no effect on function.

### Release and Engage

Place the hexagonal key into the hole provided in the cover. Engage or disengage the motor.

## INSTALLING THE DRIVE ARMS



Release the drive. Push the released drive onto the fittings and secure it by using the supplied bolts and rings.

## WIRING

The 4-pole connecting cable is approx. 80 cm long and is laid in a curve to the controller or a watertight distribution box located above ground. An approved cable is permanently installed from the distribution box onwards. The capacitor can be connected inside the distribution box or in the controller.

**Connection:** Connect the capacitor across terminals CL and OP. CL and COM produce rotation direction A. OP and COM produce reversed direction of rotation. *Always remember to earth the installation.*

## MAINTENANCE WORK

The drive mechanism is maintenance free. Check that the gate fittings and the drive mechanism are securely fixed at regular intervals (monthly). Release the drive and check that the gate functions properly. Unless the gate runs smoothly it will not operate correctly with the drive mechanism. The drive cannot eliminate the problems caused by a gate that does not work satisfactorily.

## ELECTRONIC CONTROL

The control board should be the last item to be connected, i.e. mounting the motors, laying the necessary cable and fitting light barriers or contact strips. If installation is to be performed in a permanent location, a means of disconnecting the equipment from the mains supply with a contact clearance of at least 3 mm is needed (master switch).

**Please note:** in these instructions, relay contacts are designated NC (*normal closed*) or NO (*normal open*).

- NC contacts are closed and open
- NO contacts are open and close

Humidity and water will destroy the control board. Always make sure that water, humidity and condensation cannot enter the control box. It is vitally important that all openings and cable glands are sealed so that they are watertight.

**Materials required** (details vary depending on particular application)

- Distribution box
- Buried cable, at least 1.5 mm<sup>2</sup>
- Buried cable, at least 0.5mm<sup>2</sup>
- Screws
- Wall plugs

## ELECTRICAL INSTALLATION

**Installing the electronic control board:** the motor control board is a microprocessor-controlled electronic appliance featuring state-of-the-art technology. It is equipped with all the connecting options and functions needed to guarantee safe operation. An overview of the wiring plan is shown in fig. 12D. The control box incorporating the motor control board should be installed with the cable intakes pointing downwards fig. 12A. It should not be continuously exposed to direct sunlight. The electronic equipment enables the pull and push forces to be set with great accuracy. If installed and set correctly, the gate/door can be stopped manually. When in motion, the gate/door can be stopped at any time by operating the remote control, the push-button or the key-operated switch.

**The gate/door wing must be fitted with a robust end stop for the 'OPEN' and 'CLOSED' positions as the gate/door drive has no limit switches.**

**Current distribution:** the cable leading from the drive arm must be laid in a standard watertight distribution box. A permanently installed cable can be laid from the distribution box to the control unit. It is often possible to wire the drive, which is fixed beside the control unit directly to the box. Never install distribution boxes underground.

**Generally speaking, the following minimum cable cross-sectional areas must be adhered to:**

100-230Volt	1.5mm <sup>2</sup> or more
0-24Volt	0.5mm <sup>2</sup> or more

**Tips:** Bell wire is often problematic in practical use because it loses too much voltage if long lengths of wire are used. Segregate the cables in cable trunking, i.e. motor cable and light barrier cable, especially in the case of key-operated switches and ON switches (from the house wiring system) to prevent interference where long lengths of cable are used.

## OVERVIEW OF CONNECTIONS

**Motors:** connect the control unit exactly in accordance with the overview of connections. The gate/door wing, which opens first, must be motor 1 (M1) and when it first moves it must OPEN the gate/door. If it closes the gate/door, swap terminal 6 with terminal 8 or, in the case of motor 2 (M2), swap terminal 9 with terminal 11.

The capacitor supplied as standard must be installed between cables 6 and 8 and 9 and 11 (for space reasons, the capacitor can also be installed in a distribution box). Make sure that its terminals are properly connected and that there is a good electrical connection. The capacitor determines the force which the motor subsequently

**OVERVIEW OF CONNECTIONS**

**Description of terminal occupancy**

	<b>Mains cable connection:</b>
Terminal 1	N (blue)
Terminal 2	PE (green/yellow)
Terminal 3	L1 - 230 V (black)
	<b>Flashing lamp connection:</b>
Terminal 4	N
Terminal 5	L1 (230V)
	<b>Motor connections:</b>
	<b>First motor (M1):</b>
Terminal 6	M1 direction of OPEN (brown/black) (+ capacitor)
Terminal 7	N (blue)
Terminal 8	M1 direction of CLOSED (black/brown) (+ capacitor)
	<b>Second motor (M2):</b>
Terminal 9	M2 direction of OPEN (black/brown) (+ capacitor)
Terminal 10	N (blue)
Terminal 11	M2 direction of CLOSED (brown/black) (+ capacitor)
	<b>Infrared light barrier</b>
Terminal 12	photocell (NC) active when closing
Terminal 13	COM
Terminal 14	photocell (NC) active when opening (without light barrier - jumper between 12, 13 and 14!)
	<b>Description of terminal occupancy</b>
	<b>EMERGENCY STOP FUNCTION</b>
Terminal 15	COM
Terminal 16	Stop (NC) with emergency stop switch jumper between 15 and 16
	<b>Control line connection</b>
Terminal 17	External push-button (NO) motor 1 (ped. function)
Terminal 15	COM
Terminal 18	External push-button (NO) motors 1+2
	<b>Electric lock connection</b>
Terminal 19	Distribution voltage 12 V AC
Terminal 20	Distribution voltage 12 V AC
	<b>Connection for additional equipment &amp; light barrier</b>
Terminal 21	Distribution voltage 24 V AC (500 mA max.)
Terminal 22	Distribution voltage 24 V AC

**DESCRIPTION OF JUMPER**

JP1: MOTOR

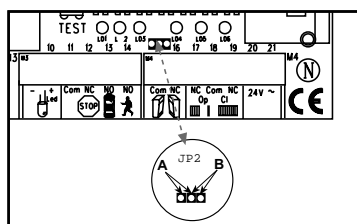
OPEN: (without jumper): only for single-wing gates (only motor 1 operating).

CLOSED: (with jumper): only for double-wing gates (motors 1 and 2 operating).

JP2: channel 2 radio receiver

If both learning channels are put together (A-side), the memory capacity of the radio receiver doubles in size. The gate can then only be fully opened. The "Pedestrian" function is no longer available. A-side: (optional) receiver channel 2 is connected up to receiver channel 1.

B-side: (standard) the two radio receiver channels work separately from one another.



**SAFETY**

**FLASHING LAMP (OPTIONAL)**

Usage of a flashing lamp is mandatory. It serves a safety-related purpose in that it warns persons in the vicinity of the gate/door that the given gate/door is moving. The flashing lamp is fixed using screws and wall plugs. The buried cable has to be run up to connect with the lamp. Generally speaking, it is installed at the highest possible point (on a pillar). Cross-sectional area: 0.75mm<sup>2</sup>, 3-pole voltage: 230 Volt/AC.

**INFRARED SENSOR**

The IR Sensor provides additional safety to the gate/door and must be used. Its point of installation depends on the design of the given gate/door. Generally speaking, the light barrier is fitted at around knee height, approx. 35 cm above ground level. IR Sensors comprise of a transmitter element and a receiver element, which must be located opposite one another. A screwdriver can be used to open the light barrier housing (plastic). The IR Sensor is fitted to the wall with small screws and wall plugs. Usage of a single set of IR Sensors is a minimum requirement; we recommend using two sets of IR Sensors (and other safety facilities if necessary).

It is possible to connect the IR Sensor as described below. Active when 'OPENING' (terminal 14) or active when 'CLOSING' (terminal 12). The instructions describe how to connect a single IR Sensor and therefore uses both fuse inputs, i.e. active in both directions. DIP switch 4 on the control unit controls the door wing's response if the light beam is interrupted while the gate/door is closing. An active IR Sensor (only) stops the gate/door or an active IR Sensor reverses the direction of the gate/door.

The transmitter element needs a 2-pole cable, the receiver element a 4-pole one. Cable cross-sectional area: 0.5mm<sup>2</sup> or more. Voltage: 12/24Volt AC/DC. Terminals (12-13-14) (22/23).

**EMERGENCY STOP (OPTIONAL)**

If a switch is connected, it can be used to stop or disable the installation. This immediately interrupts movement of the wing. Depending on the level of safety needed, the contact can also be connected on the gate/door to the IR Sensor's contacts. This immediately stops any wing movement.

**DEAD MAN'S OPERATING MODE**

In dead man's operating mode, a gate/door can be operated without safety facilities insofar as the operator has a clear view of it during the whole period of operation. There are 3 DIP switches located on the upper part of the control unit. Set DIP switch 2 to the ON position. The control unit only functions in this case if a signal can be continuously transmitted via the handset, key-operated switch or push-button. Any interruption in the signal causes the gate/door to stop and the next signal sent moves it in the opposite direction.

**CONTROL LINES**

It is possible to open only one gate/door or both gates/doors. This function is also possible when using the radio remote control. See initial setting of remote control. The test button on the control unit always switches on both motors. If the installation has overlapping wings, the wing delay must be set. Wings that do not overlap may not close simultaneously - risk of persons trapping themselves (see 'Description of Potentiometer' section).

**INSTALLATION OF KEY-OPERATED SWITCH (OPTIONAL)**

*Cable connections as per wiring plan.*

**ELECTRICAL LOCK (OPTIONAL)**

An electrical lock can be connected to terminals 19 - 20. Output voltage: 12 V AC. See 'DIP Switch Settings' section too!

### ANTENNA (OPTIONAL)

An external antenna is not a mandatory requirement. A short antenna is located on the control unit's radio adapter. Should the range of the remote control need to be extended, fit an external antenna compatible with 433 MHz (the ANT4X-1LM model incl. 750 Ohm coaxial cable). It has to be connected via the radio adapter on the control unit (see 'Control Unit Instructions' section). The best location for an antenna is as high up and as far away from electrical equipment as possible. The short cable antenna that is supplied as standard and pre-connected may then no longer be used.

### DESCRIPTION OF DIP SWITCHES

The DIP switches control the general functions of the installation:

- Automatic closing or default
- Dead man's operating mode
- Electric lock function
- Response of light barrier

DIP switch 1	ON	Automatic closing
	OFF	Default
DIP switch 2	ON	Dead man's operating mode
	OFF	Default
DIP switch 3	ON	Electric lock function
	OFF	Default
DIP switch 4	ON	Light barrier (for closing) stops the gate/door
	OFF	Default light barrier (for closing) opens the gate/door

### DESCRIPTION OF POTENTIOMETER

- Force M1 Force M2:

Adjust the force with which the door operates for each wing separately. The rotary potentiometer is used to make fine gate/door adjustments.

**Should the force generated by the moving wing at its closing edge exceed 400 N, additional safety features (IR sensors, contact strips) must be fitted. Any safety features fitted must comply with the appropriate standards (Europe: EN60335-1). See 'Safety Rules' section too.**

- PAUSE

This function is only active if DIP switch 1 is set to ON. It adjusts the time for which the gate/door is kept open before it closes again. Adjustable: 8-200 seconds.

- OPEN-CLOSED

Adjust the maximum running time of the wings. Set the running time to approx. 30% and then test. Correct adjustment is obtained when the drive continues to run (hum) against the end stop for 3-5 seconds each time in one complete cycle. This is necessary because the required running time is affected by external influences and it must be ensured that the end position is reliably reached (wind, temperature, changes in ground conditions). This is why end stops in the OPEN and CLOSE directions are stipulated as being mandatory.

**Adjustable: 7-60 seconds**

- WING DELAY

Controls the wing delay in the case of installations with overlapping wings. Wing M1 opens first and closes last. A delay must always be set in order to make sure that no one can trap themselves between two closing wings.

**Adjustable: 0-35 seconds**

### DESCRIPTION OF LEDS

LED 1	red	Monitors the light barrier for door closing. LED ON = OK
LED 2	red	Monitors the light barrier for door opening LED ON = OK
LED 3	yellow	Monitors the emergency stop contact ON=OK
LED 4	green	Indicates signals from key-operated switches, push-buttons or radio. Single-wing gate/door opening function ON = signal present.
LED 5	green	Indicates signals from key-operated switches, push-buttons or radio. Both-wing gate/door opening function ON = signal present.
LED 6	red	Flashes slowly = OK Flashes quickly = check all connections to the motors, capacitor, flashing lamp and remove any humidity from terminals.

### DESCRIPTION OF FUSES

F1	5,0A	Main fuse: Protects the entire control unit and the motors. Never replace this fuse by one with a higher rating.
F2	0,5A	Secondary fuse for 24 V output.
F3	2,0A	Secondary fuse for electric lock 12 V output. Please bear in mind the power requirement of the electric lock you use.
F4	0,315A	Secondary fuse for logic circuitry: push-buttons, emergency stop, light barrier, receiver.

### TEACHING THE REMOTE CONTROL

Up to 15 remote controls can be programmed on each self-learn channel. In the case of large installations it is advisable for organizational reasons, to use an external receiver or a key-operated switch or a code lock, which should be installed at the entrance.

The radio receiver plugs in on the side and has two small self-learn buttons.

The radio remote control is licensed by the Post + Telecommunication Office and costs nothing to operate. It works on the basis of a private security code (approx. 3.5 billion code options) that is pre-programmed via computer. Your gate/door drive can thus only be activated by a correspondingly coded handset. The range obtained depends on the given local environment. The receiver element of the motor control has an integrated self-learn function. It can be set to the handset's pre-programmed code by pressing the self-learn push-button.

The control unit has two self-learn channels and is therefore able to open or close one gate/door or both gates/doors simultaneously via appropriate operation of the handset. Should, for instance, channel 1 (2) receive the handset's remote control code, only one wing will be opened. If you teach the remote control on channel 2 (1), you will be able to open both wings via the appropriate push-button. To memorize the code all you need do is press the button of your choice on the handset and keep it depressed while, at the same time, briefly pressing the self-learn button on the electronic unit with the other hand. **Repeat this procedure for all other transmitters.**

### DELETION OF REMOTE CONTROL CODE

Press the appropriate self-learn button (1 or 2) on the receiver control board for *approx. 10 seconds* until the self-learn LED extinguishes. The codes previously 'learned' allocated to the given self-learn button have thus been deleted.

**REPROGRAMMING**

For reprogramming purposes, the coding procedure mentioned above should be repeated for all the remote controls in use and/or their appropriate operating buttons.

The radio remote control's range varies according to the given local environment. Keep the push-button on the handset depressed until such time (approx. 2 seconds) as the gate/door is seen to move.

Your radio remote control is digitally coded, i.e. accidental operation of the gate/door drive is more or less impossible.

**INITIAL OPERATION**

Proceed carefully and deliberately. Do not rush the process of making the basic settings. It may take up to 30 minutes to complete initial settings. If applicable get help from a second person so that changes on the control unit can be made more easily (power OFF or ON).

1. Connect the control unit including the safety inputs.
2. Check the LEDs.
3. Move the gate/door to a half-opened position and engage it, then press the test button. Both wings must then open. If one wing closes instead of opening, the terminals on the given wing's motor have been connected incorrectly and the motor cables for the relevant motor must be swapped round (see connections). The cables to which the capacitor is also connected are the ones that need to be swapped round. They determine the direction in which the motors run. Then repeat the entire process until both wings open when they first move. Important, always switch the power off to do this.
4. If both wings open when they first move once the control unit has been connected, proceed as follows.
5. Interrupt the power supply to the control unit and reconnect it after a few seconds. Close both gate/door wings manually and engage both wings.
6. Adjust all the potentiometers to 30% and make sure that DIP switch 1 is set to OFF (down).
7. Then use the test button to switch on the control unit and observe what happens. Close the gate/door again by using the test button WITHOUT having made any adjustments to the settings. If the gate/door does not close completely by itself, release the drive and close it manually after switching off the control unit.
8. Then adjust the potentiometer to a different (higher) value in line with the value suggested by practical experience from trial operation (e.g. increase running time, correct force, wing delay). Then make a second trial and repeat the procedure above closing the gate/door first with the test button before making any further settings.
9. Once all settings have been made, check that the light barriers, push-buttons, flashing lamp, handset, accessories etc. function correctly. If you require automatic closing, modify the setting of the DIP switches and adjust the potentiometer for a pause.
10. Show anyone who has to deal with the gate/door how the gate/door moves, how the safety functions operate and how the drive can be actuated manually.

**TECHNICAL DATA**

Mains supply (Motor)	220 – 240Volt/ 50Hz
Current consumption	1,3A
Power consumption	220W
Capacitor	5µF
Max. gate width	2,5m ECO300K/300KS 3,5m ECO400K/400KS
Max. gate weight	200kg
Protection Class	I - IP 44
Connecting cable	H07RN-F / 80cm
Rated Thrust	250N
Travel Speed	20mm/s 12mm/s
Rated operating time	4 minutes
Temperature	-20°C to + 55°C
Mains supply (Control)	230V/50-60Hz
Absorbed power	4 Watt
Max. load	1100W
Protection fuses	1 (5A)
Protection Class (Box)	IP54

**Declaration of Conformity**


Automatic Gate Opener .....Models ECO300K/300KS/400K/400KS  
is in conformity to the applicable  
sections of Standards.....EN300220-3, EN55014, EN61000-3,  
.....EN60555, EN60335-1, & ETS 300 683  
per the provisions & all amendments  
of the EU Directives .....73/23/EEC, 89/336EEC

**Declaration of Incorporation**

Automatic Gate Opener Models ECO300K/300KS/400K/400KS, when installed and maintained according to all the Manufacturer's instructions in combination with a Gate, which has also been installed and maintained according to all the Manufacturer's instructions, meets the provisions of EU Directive 89/392/EEC and all amendments.

*I, the undersigned, hereby declare that the equipment specified above and any accessory listed in the manual conforms to the above Directives and Standards.*

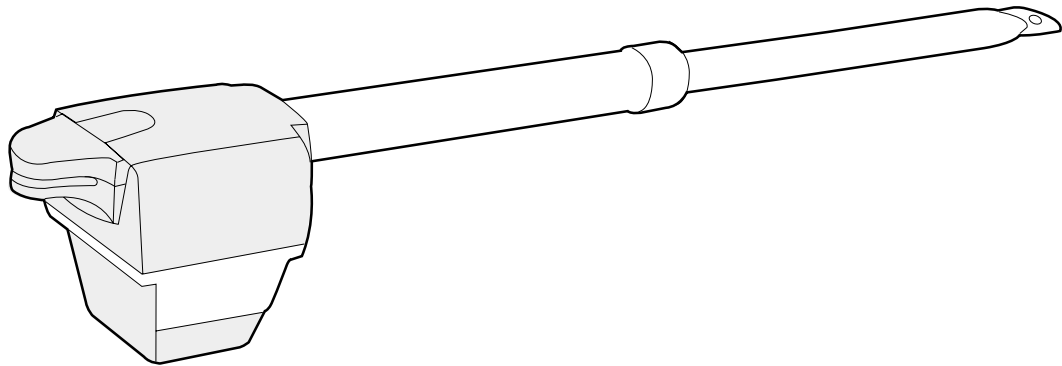
Chamberlain GmbH  
D-66793 Saarwellingen  
January, 2003

  
Colin B. Willmott  
Chief Engineer

CHAMBERLAIN™

# LiftMaster™

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**INT** Int. Service (+49) 6838/907 172

**D** für Service 06838/907 172

**GB** for service (+44) 0845 602 4285

**F** pour service 03 87 95 39 28

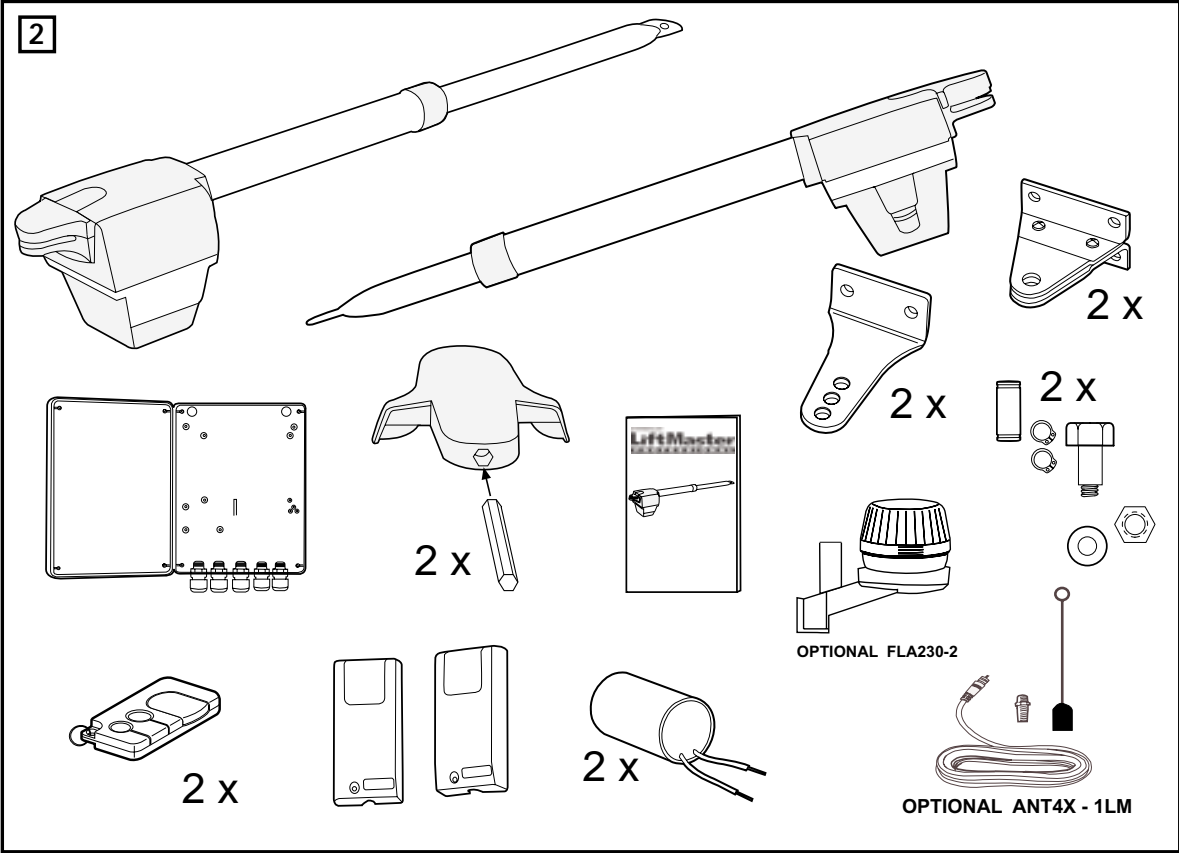
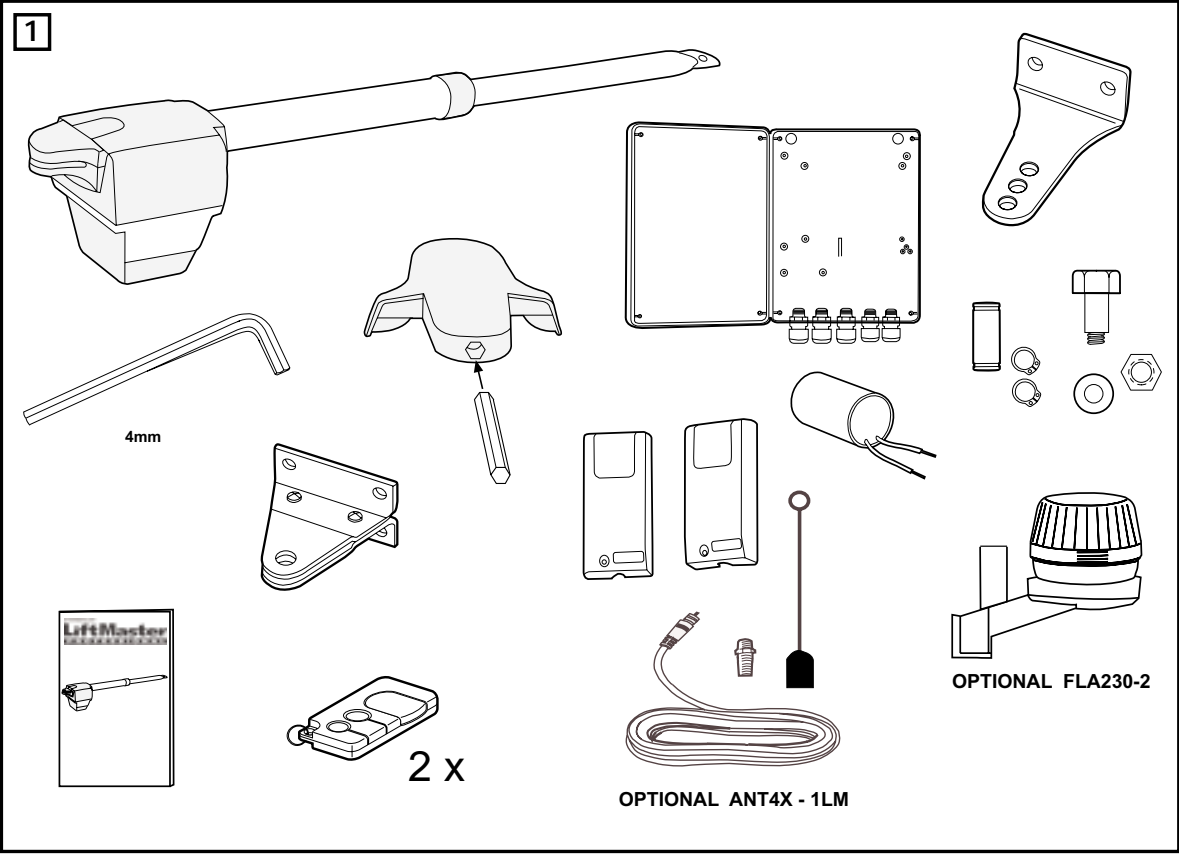
**NL** voor service 020 684 7978

www.liftmaster.com  
Email: info@chamberlain.com

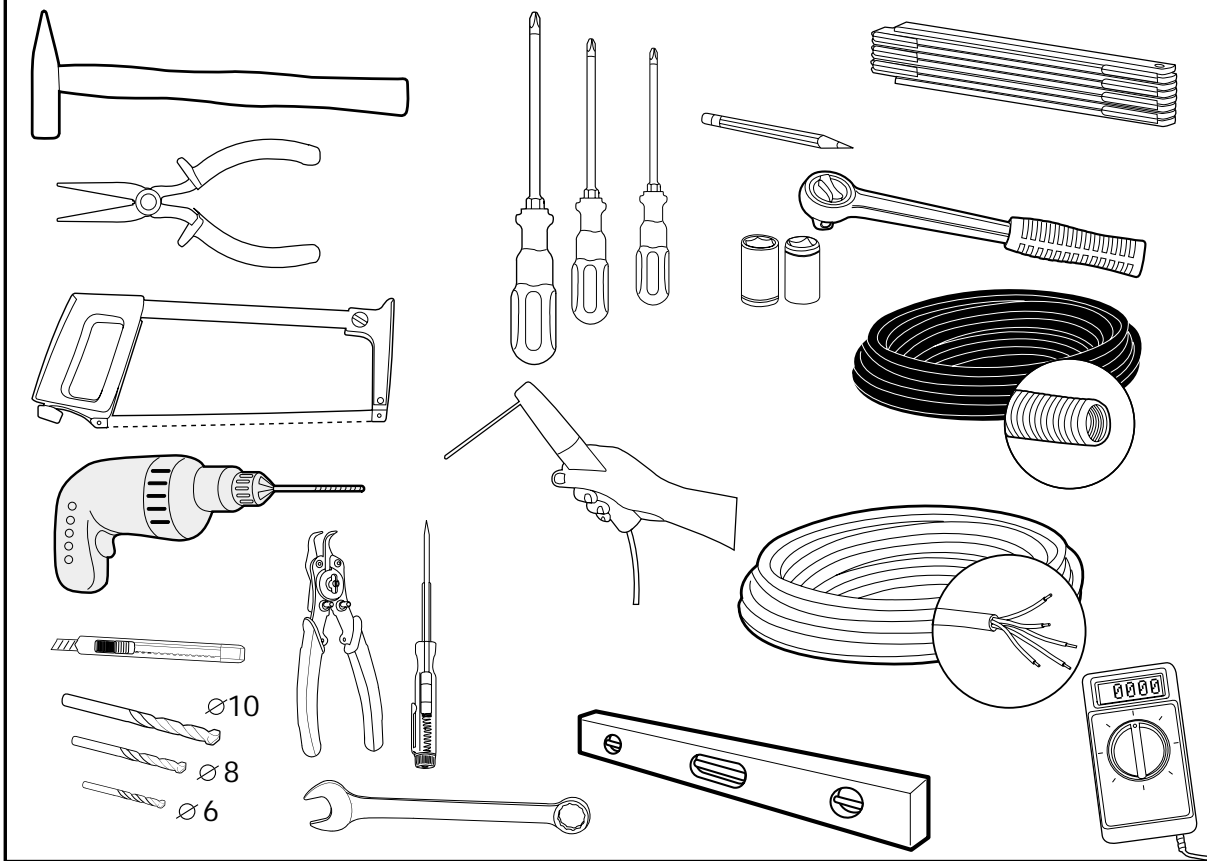
**CE 0678** ①

- CZ** pro použití v CZ & SK
- D** zur Verwendung in der EU
- E** para uso en UE
- F** pour utilisation dans l'UE
- GB** for use in EU
- H** HU, RU, BG országokban való használatra
- HR** Za uporabu u Hrvatskoj i Slovačkoj
- I** per l'uso nell'UE
- NL** voor gebruik in de EEG
- P** Para ser utilizado na UE
- PL** do użytku w PL
- RUS** для исп. в РФ

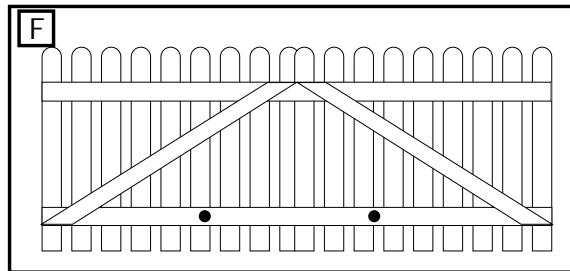
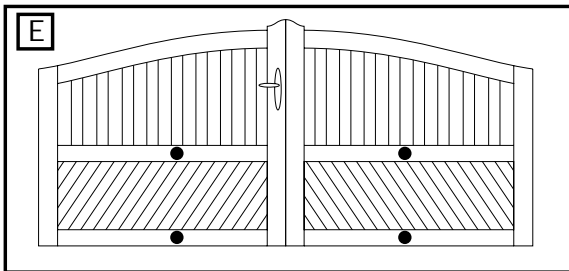
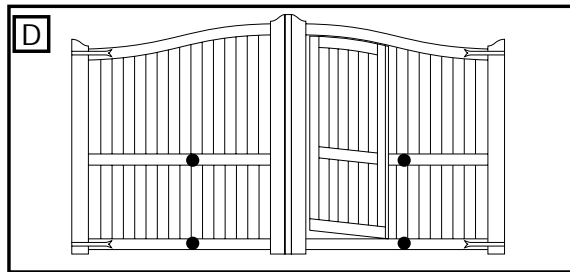
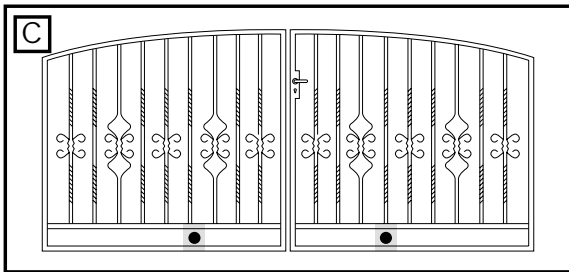
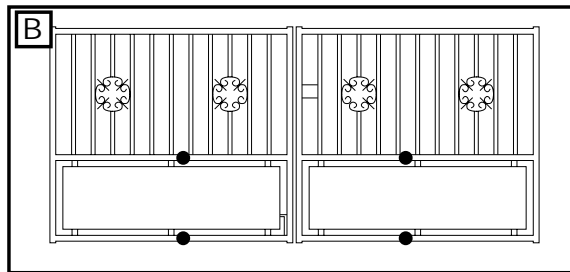
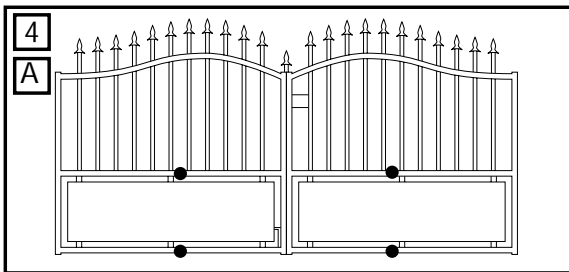


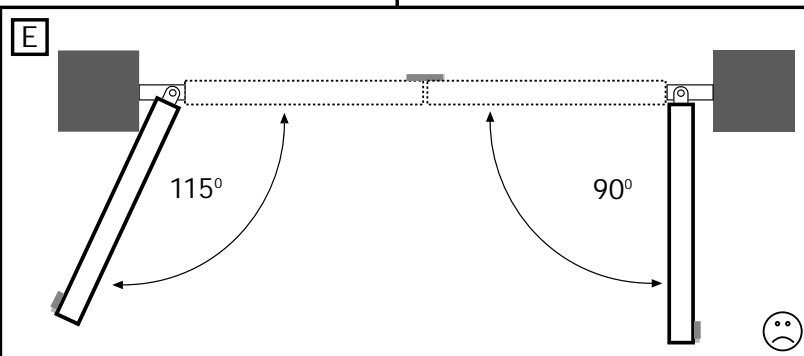
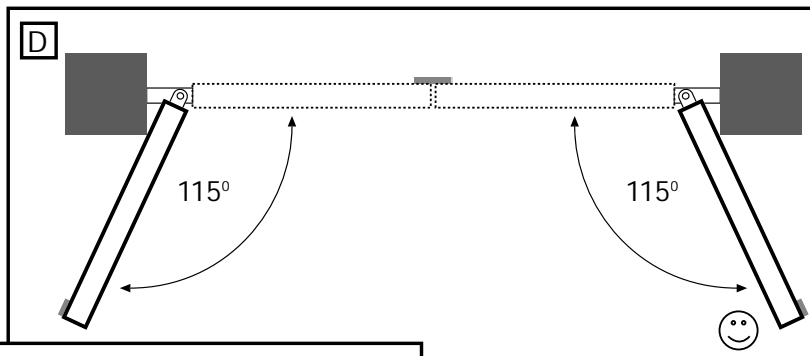
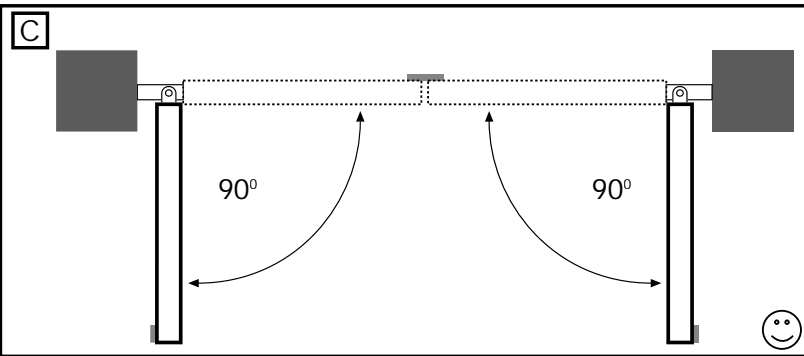
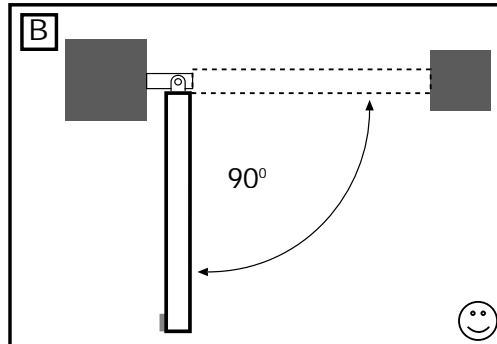
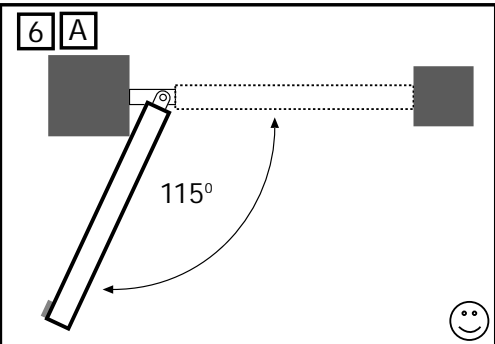
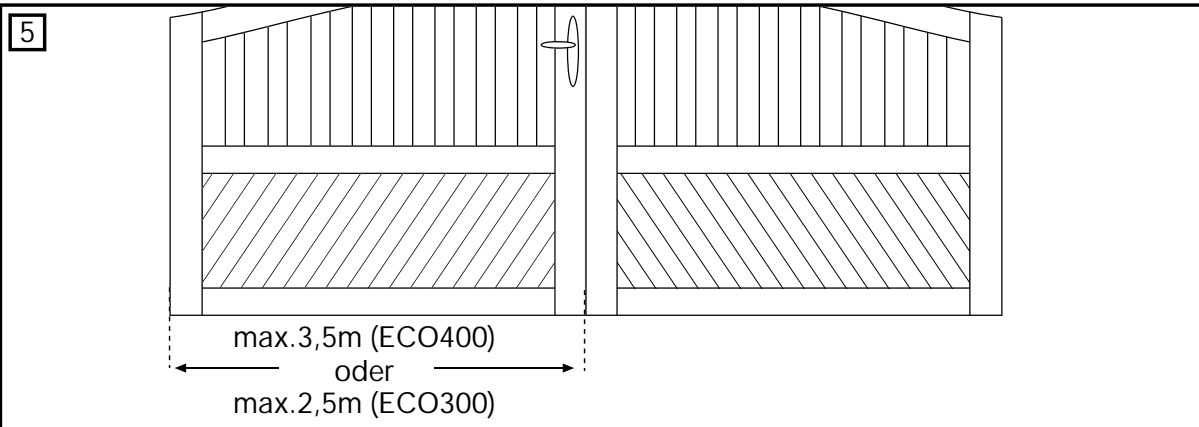


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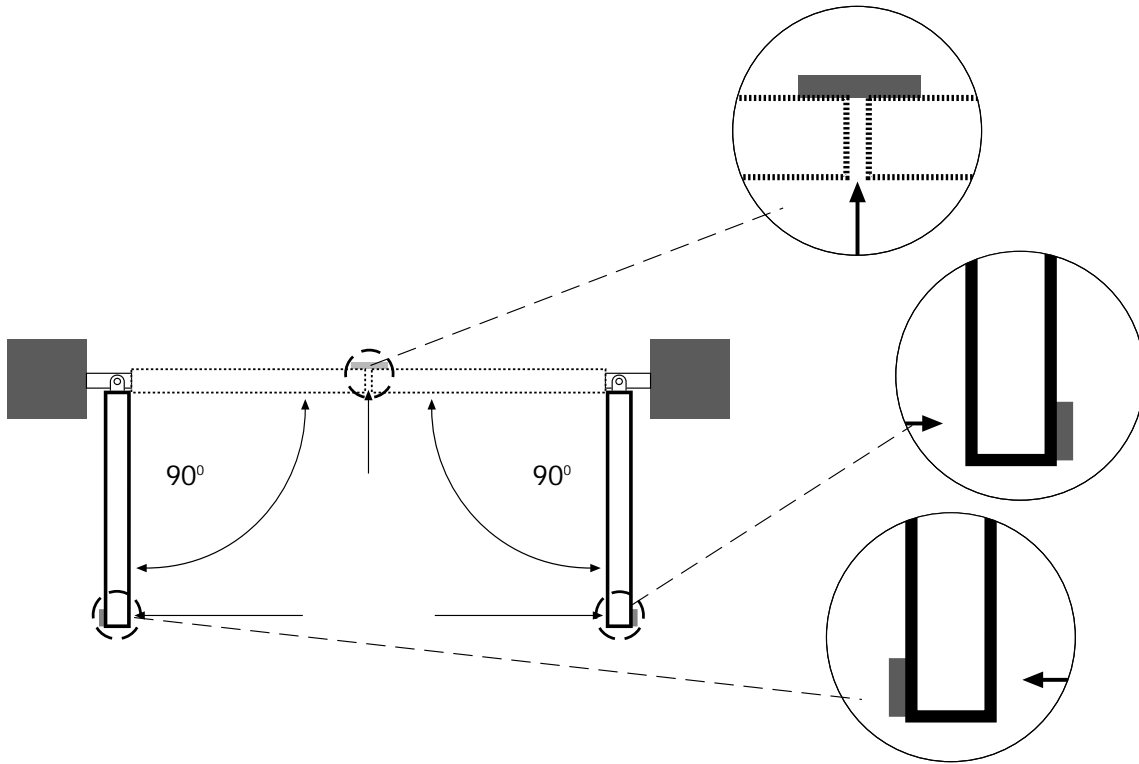
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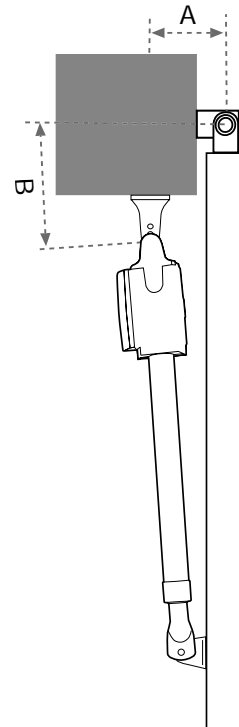
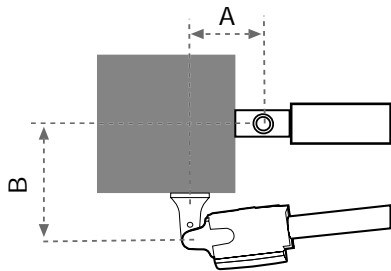


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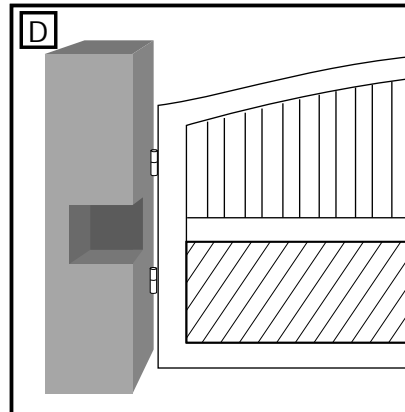
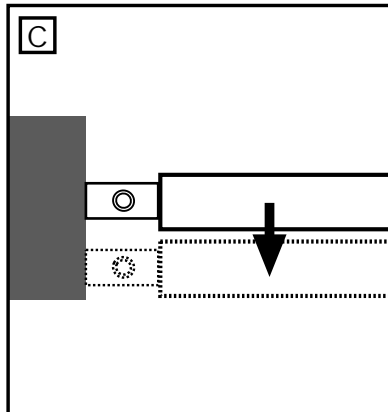
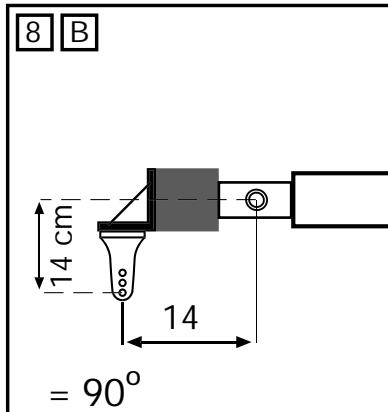


8 A

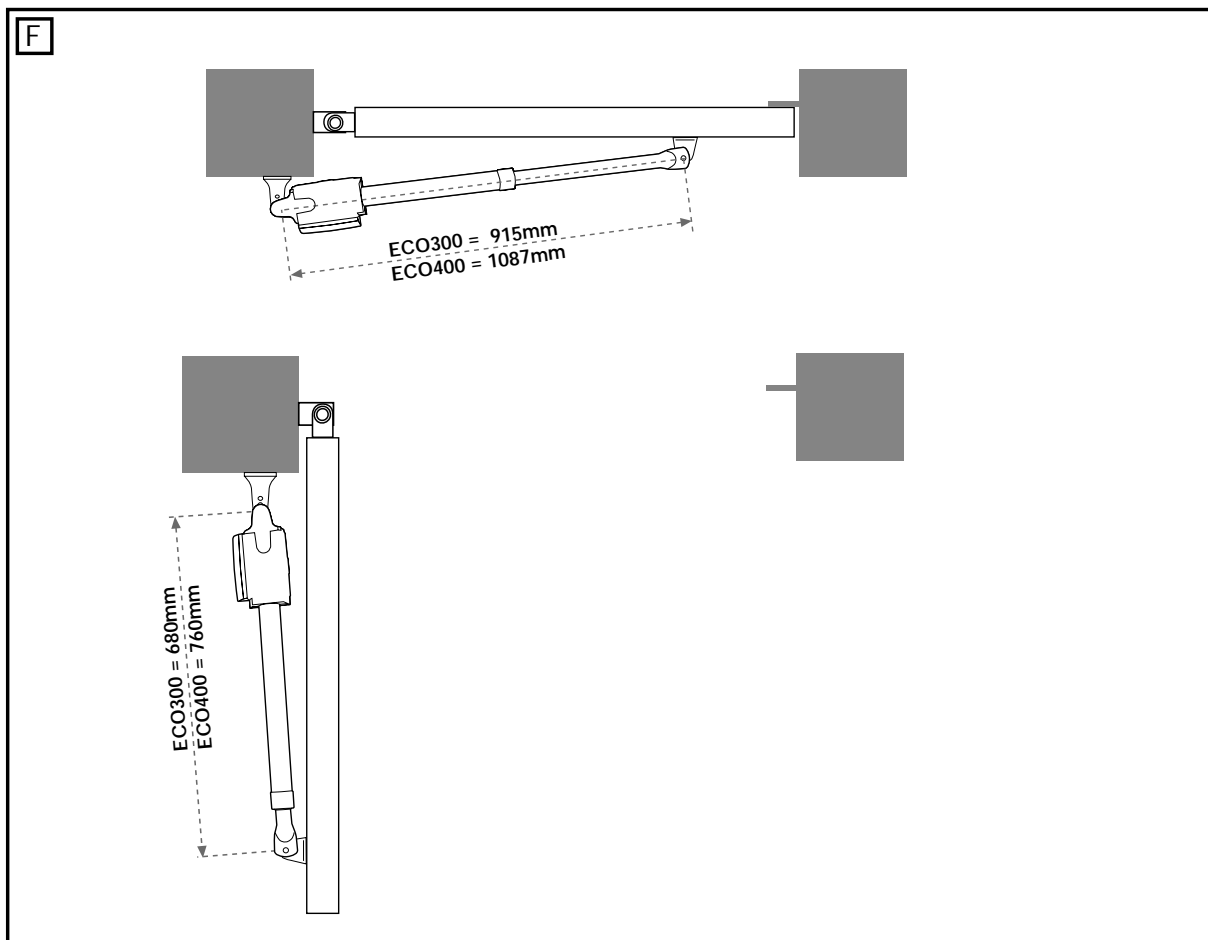
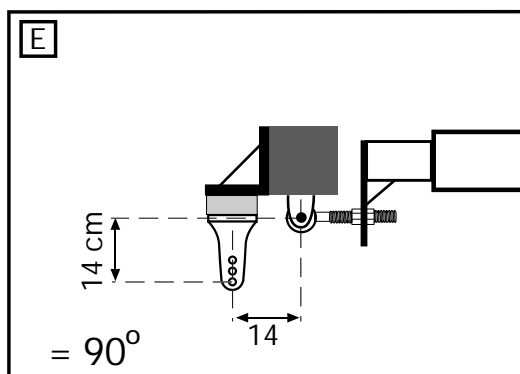


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		10	12	14	16	18	20	22		
B	10		115°		110°	105°	100°			
	12		110°	121°	101°	100°	94°			
	14		108°	105°	93°	100°	92°			
	16		106°	95°	87°	A=15cm B=15cm =ca. 90°				
	18			93°						
	20									
	22							⚠		

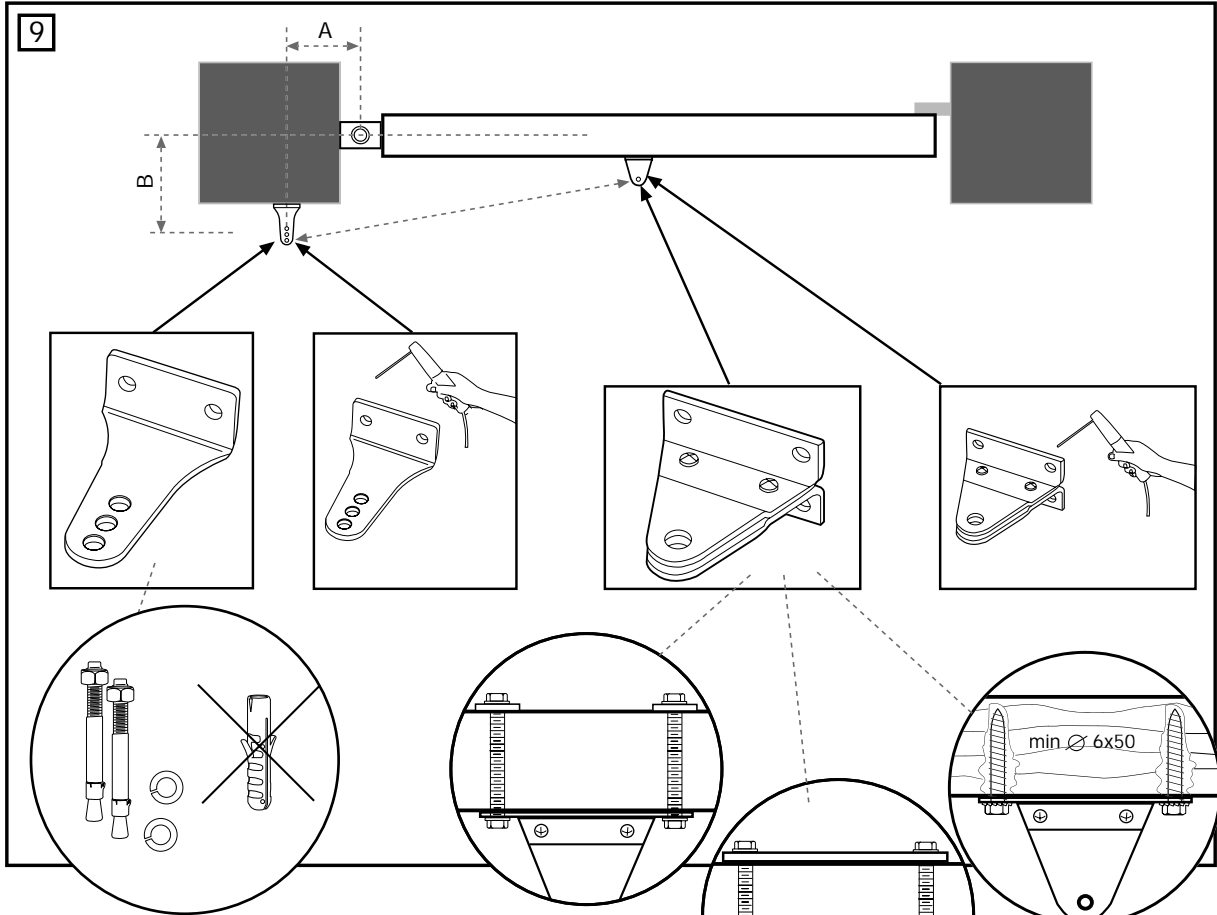
		A						ECO400/400S		
		14	16	18	20	22	24	26		
B	14	105°	120°	125°	111°	105°	99°	95°		
	16	103°	118°	113°	102°	98°	94°	90°		
	18	111°	115°	105°	97°	93°	90°			
	20	109°	103°	96°	90°	87/118°	A=19cm B=19cm =ca. 90°			
	22	106°	95°	90°						
	24	93°								
	26								⚠	



5

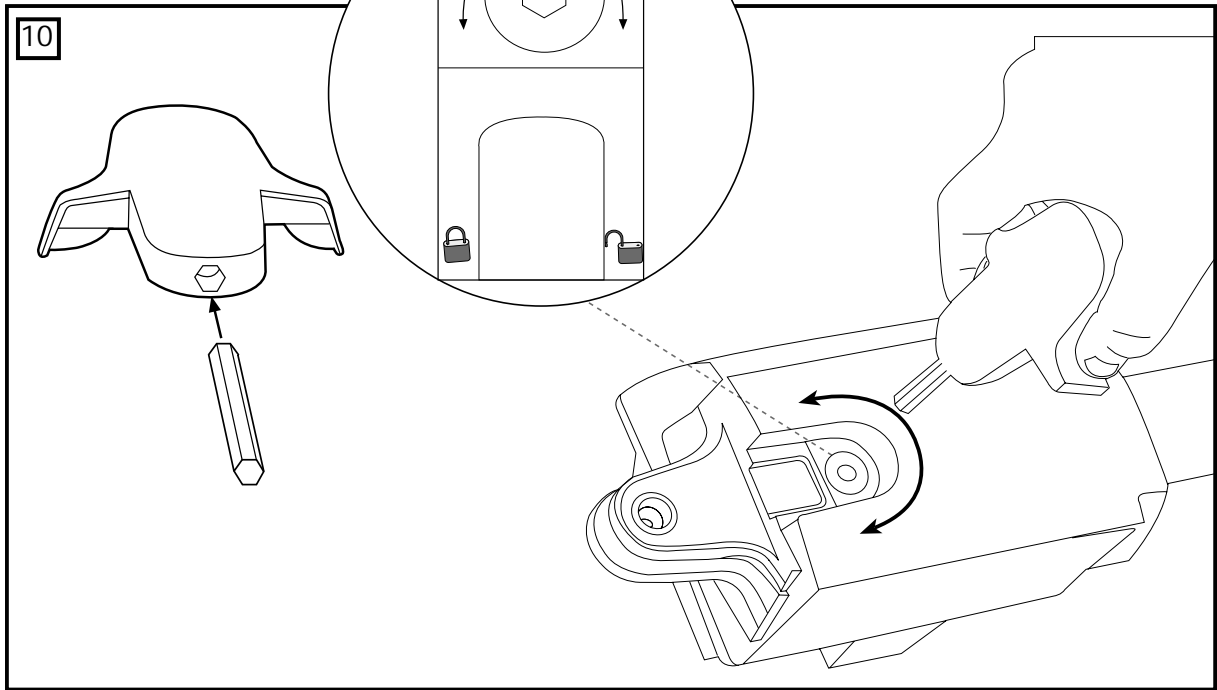


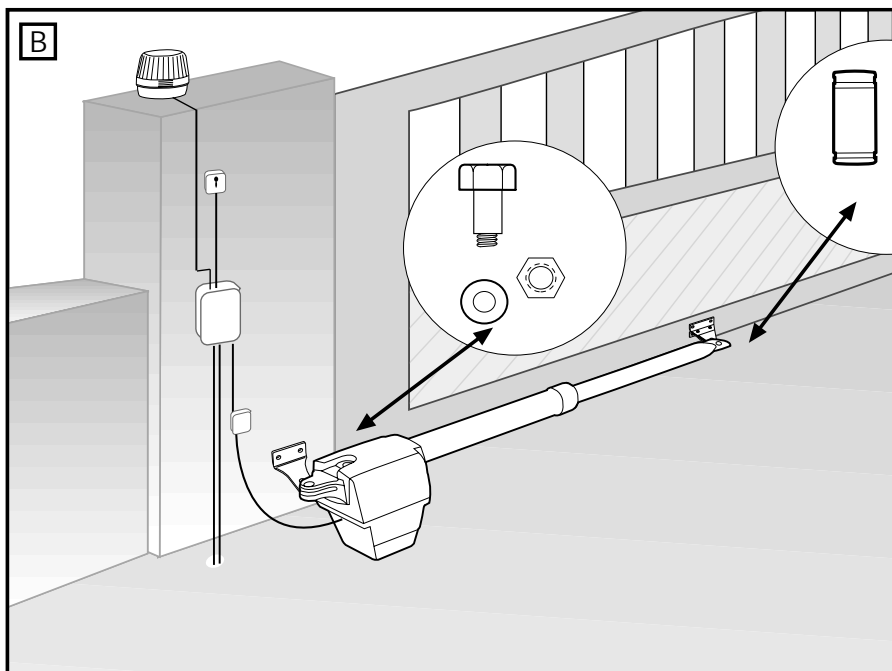
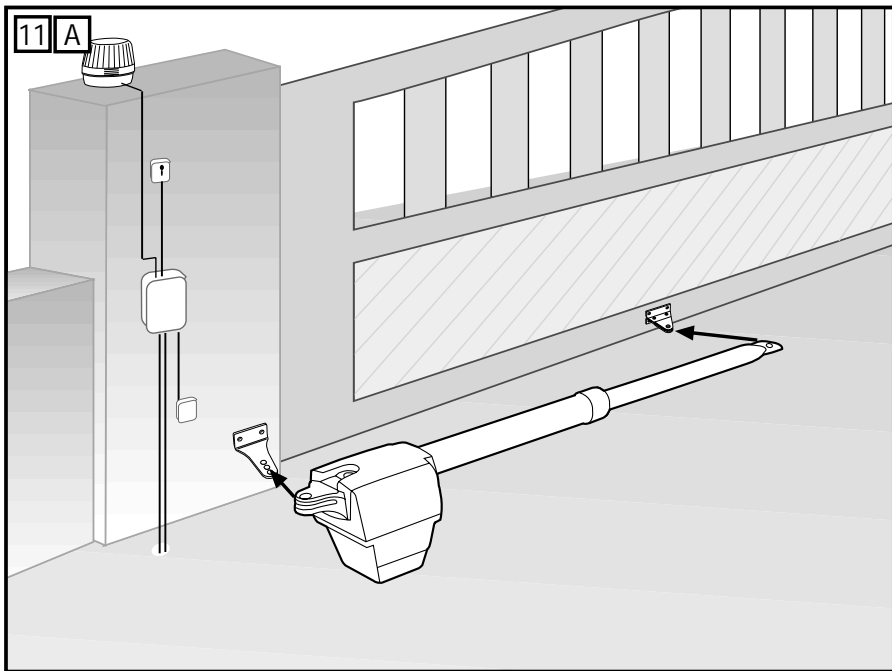
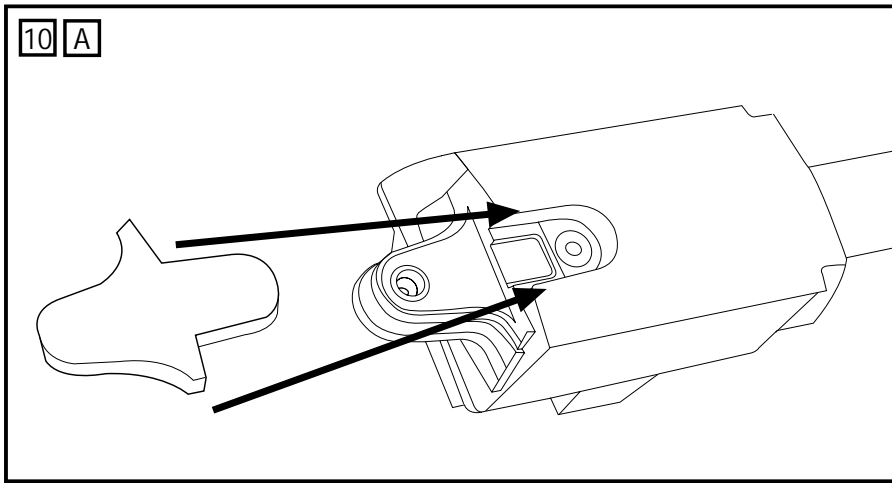
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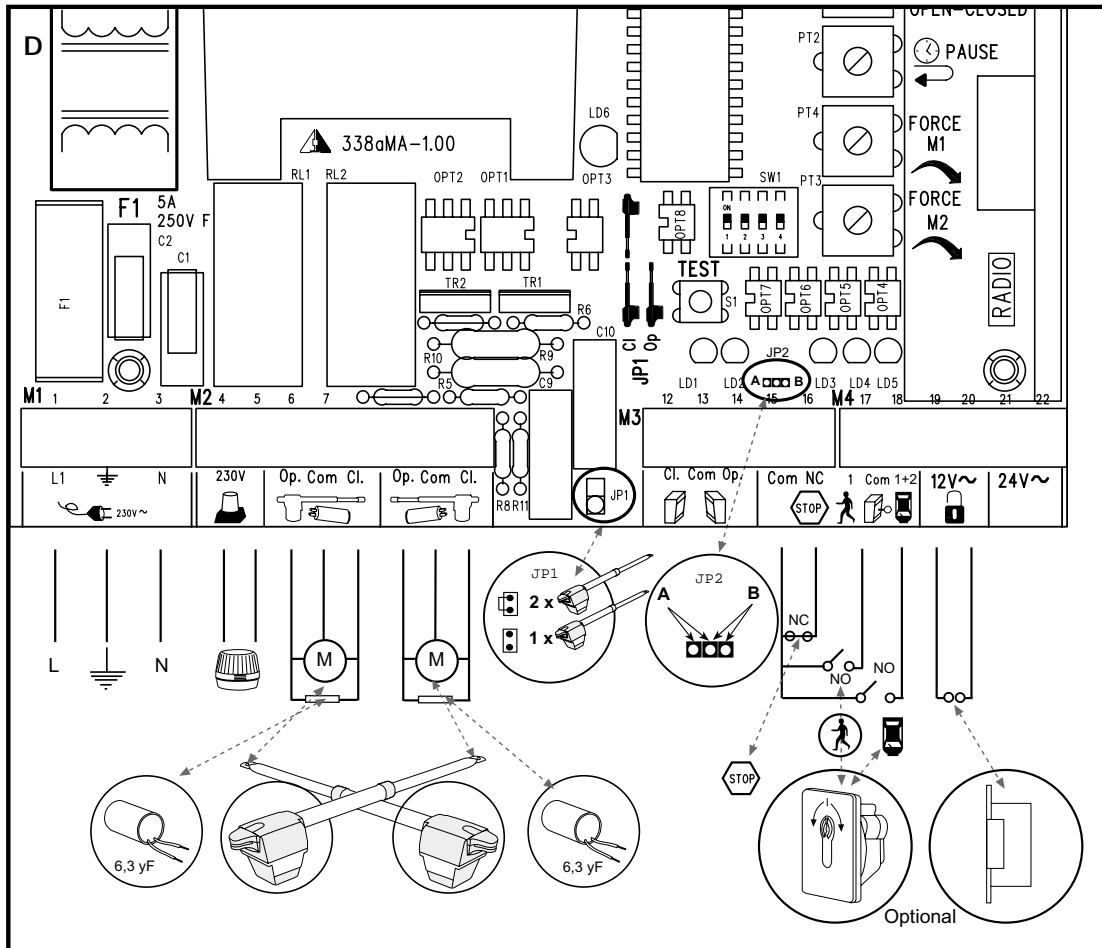
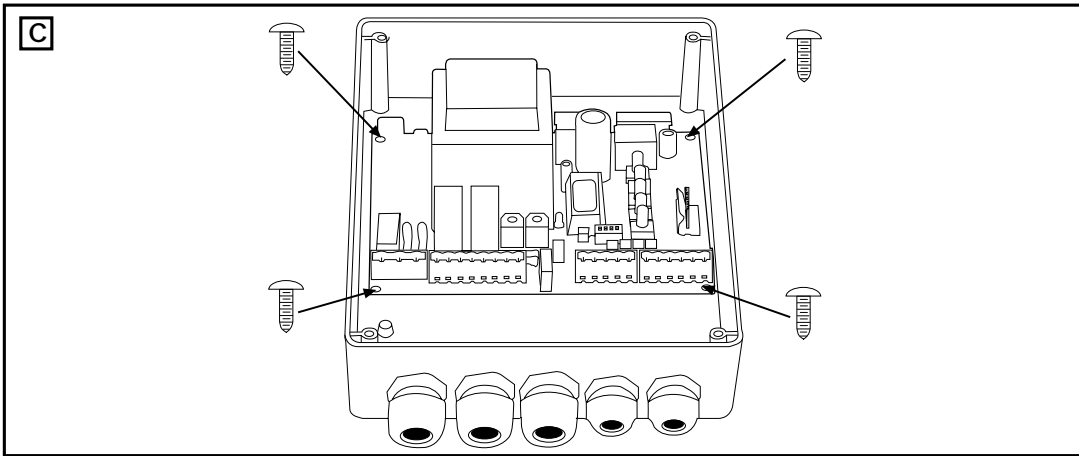
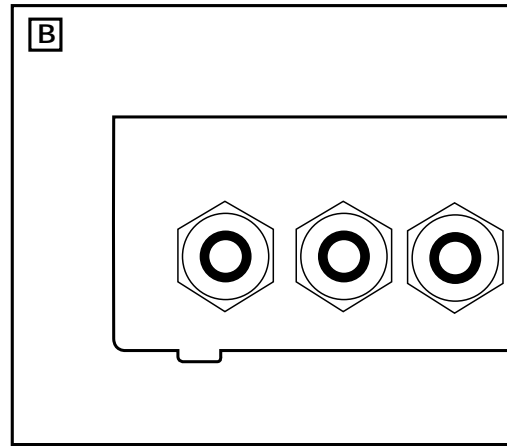
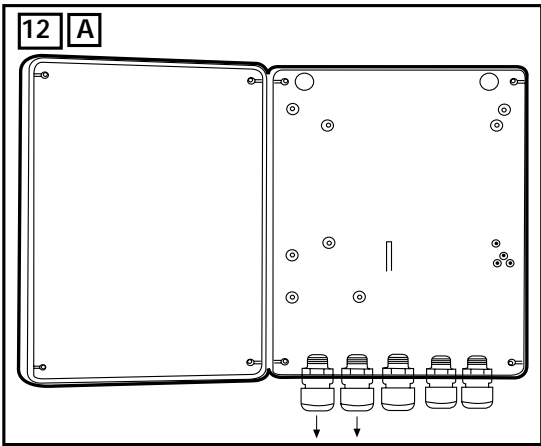


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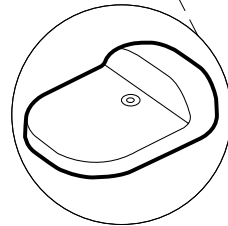
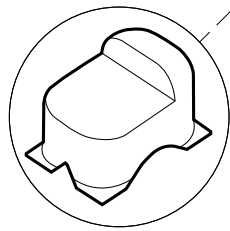
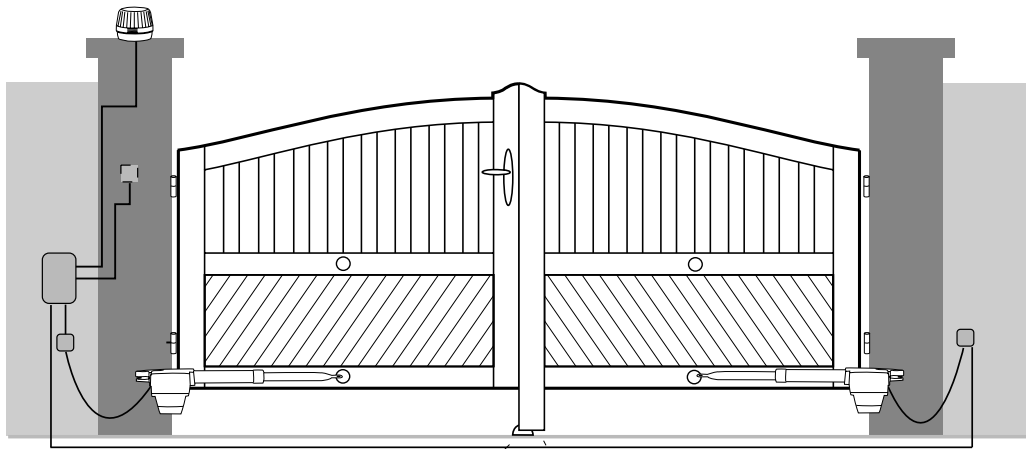
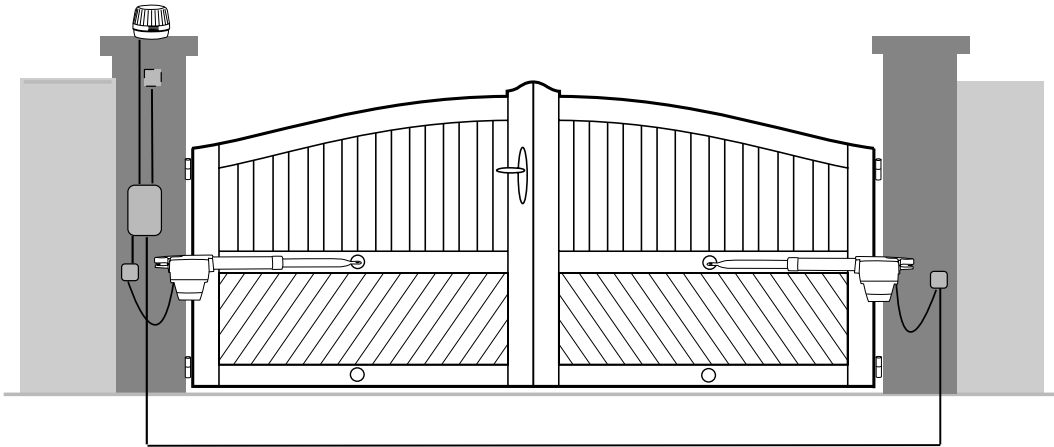


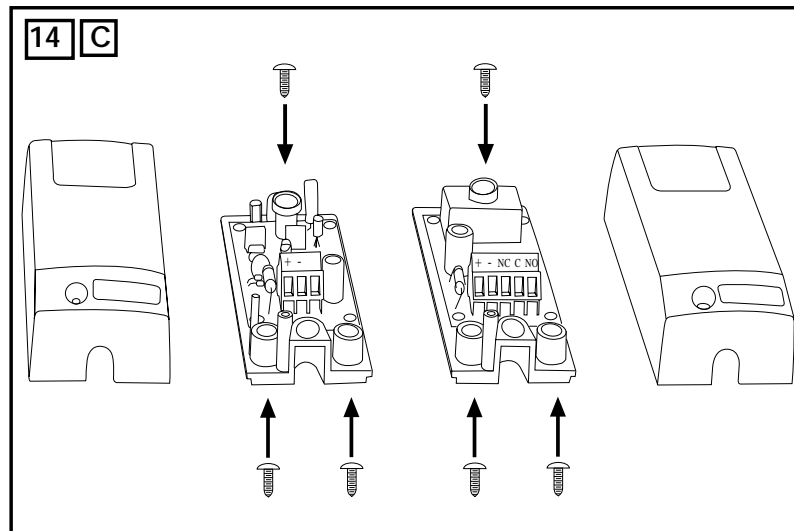
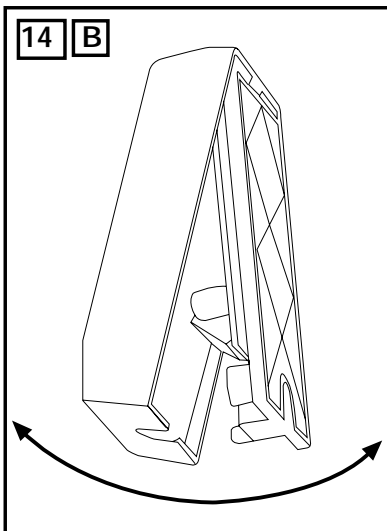
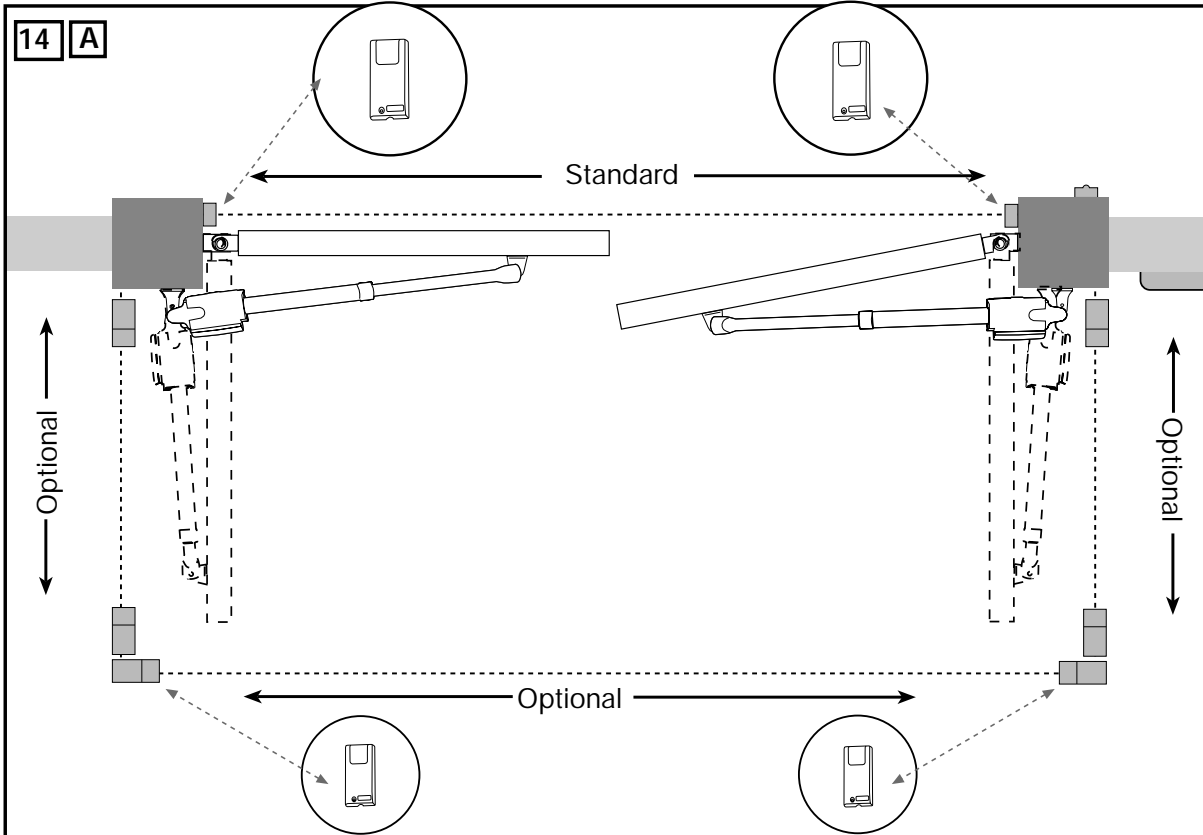
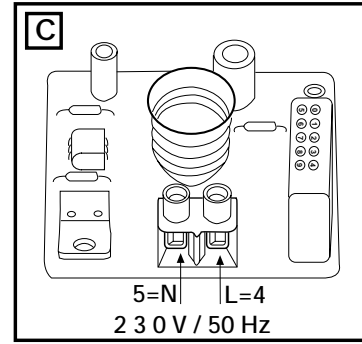
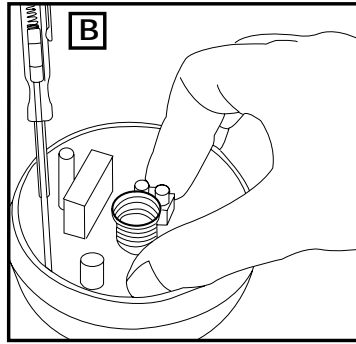
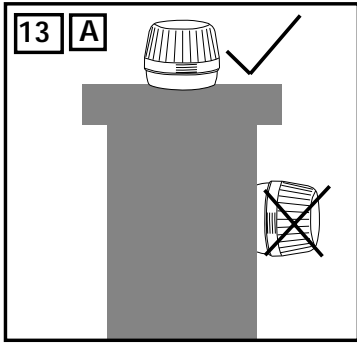


12

E

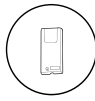
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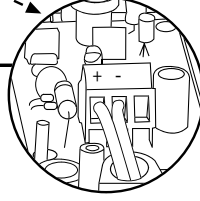
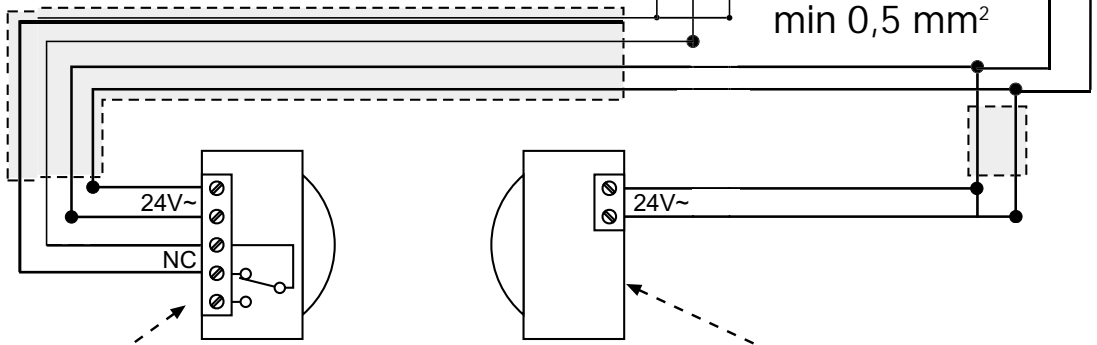
14 D

Standart = 1x



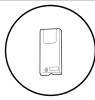
Aktiv +

11

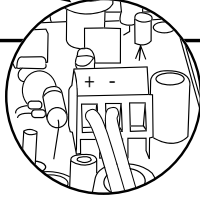
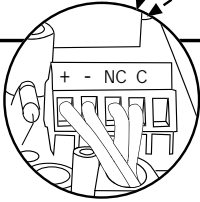
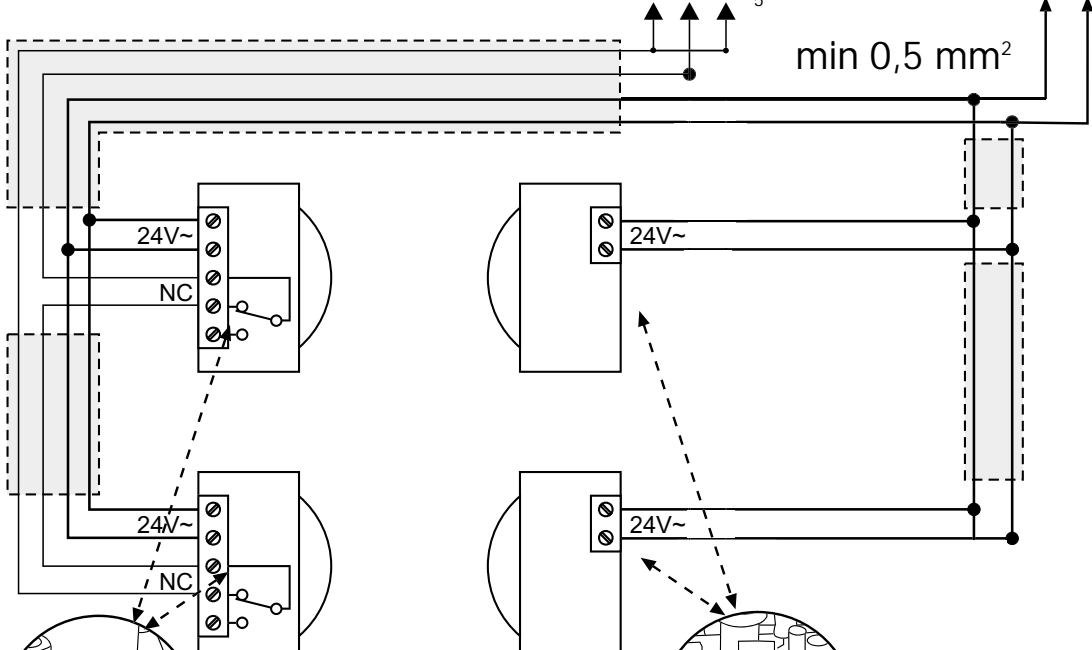


E

Optional = 2x

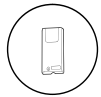


Aktiv +



14 F

Optional = 4x



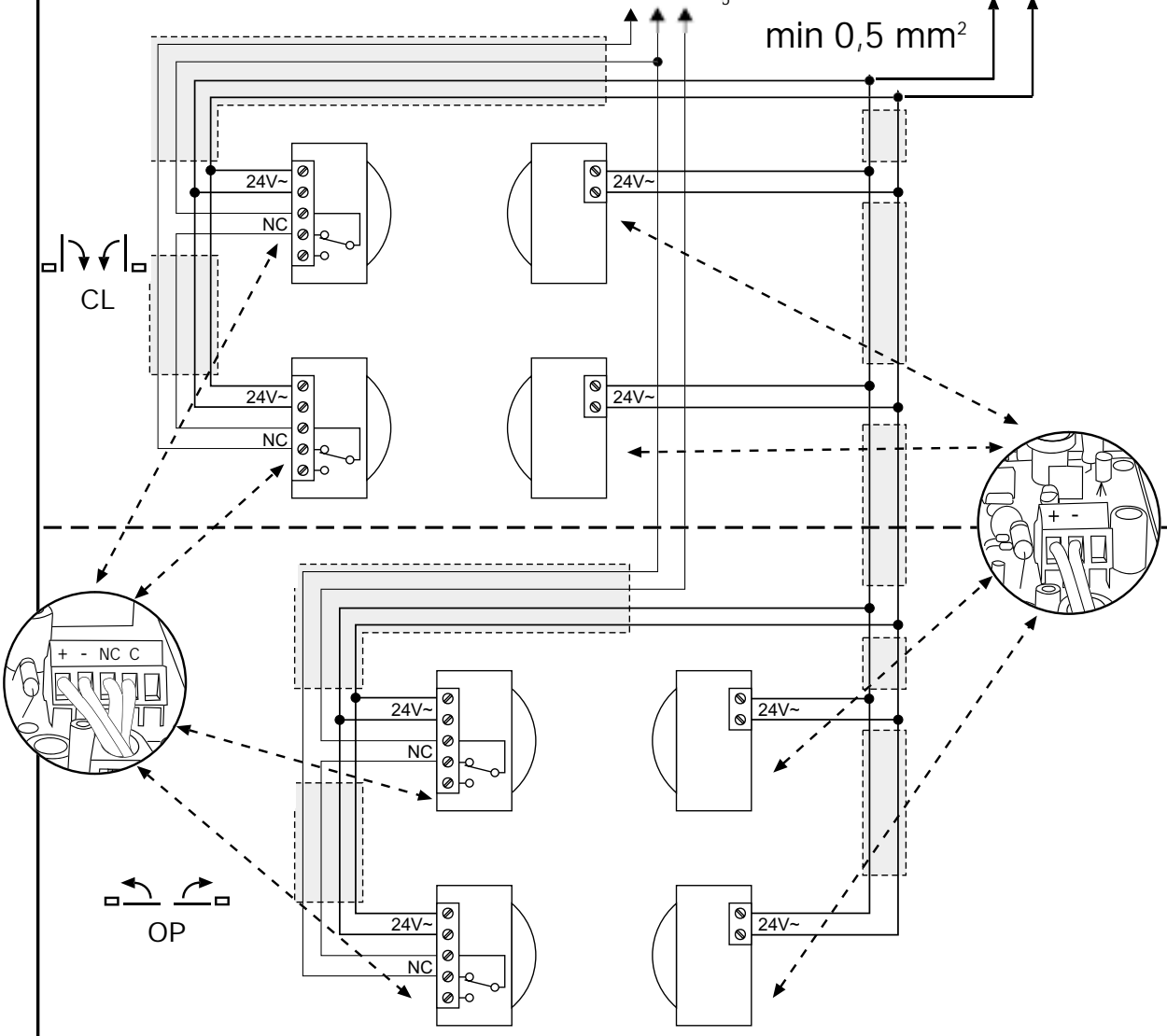
2x Aktiv



+ 2x Aktiv

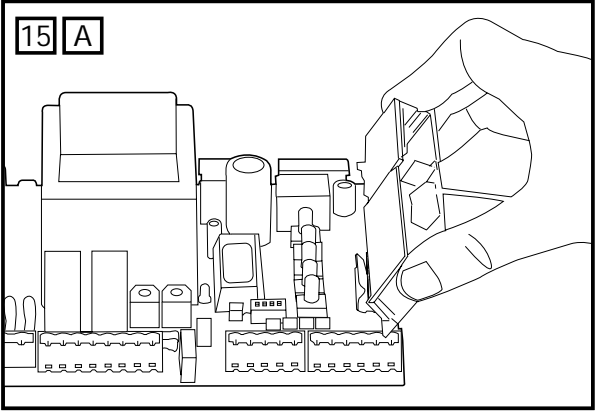


min 0,5 mm<sup>2</sup>



12

15 A



B

