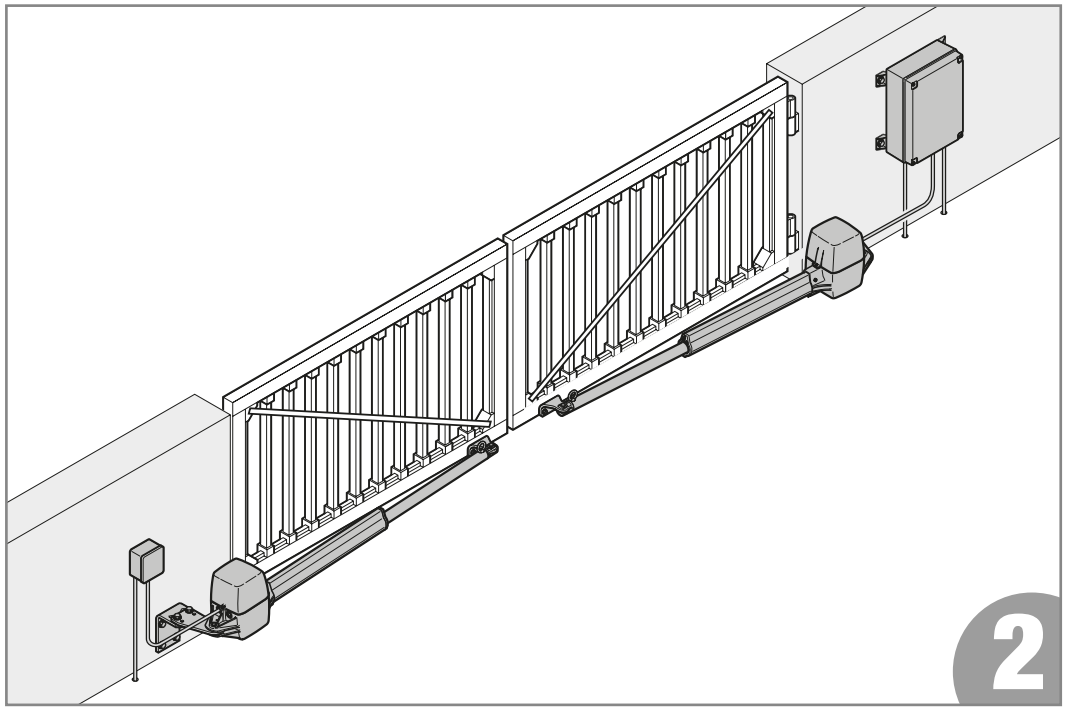
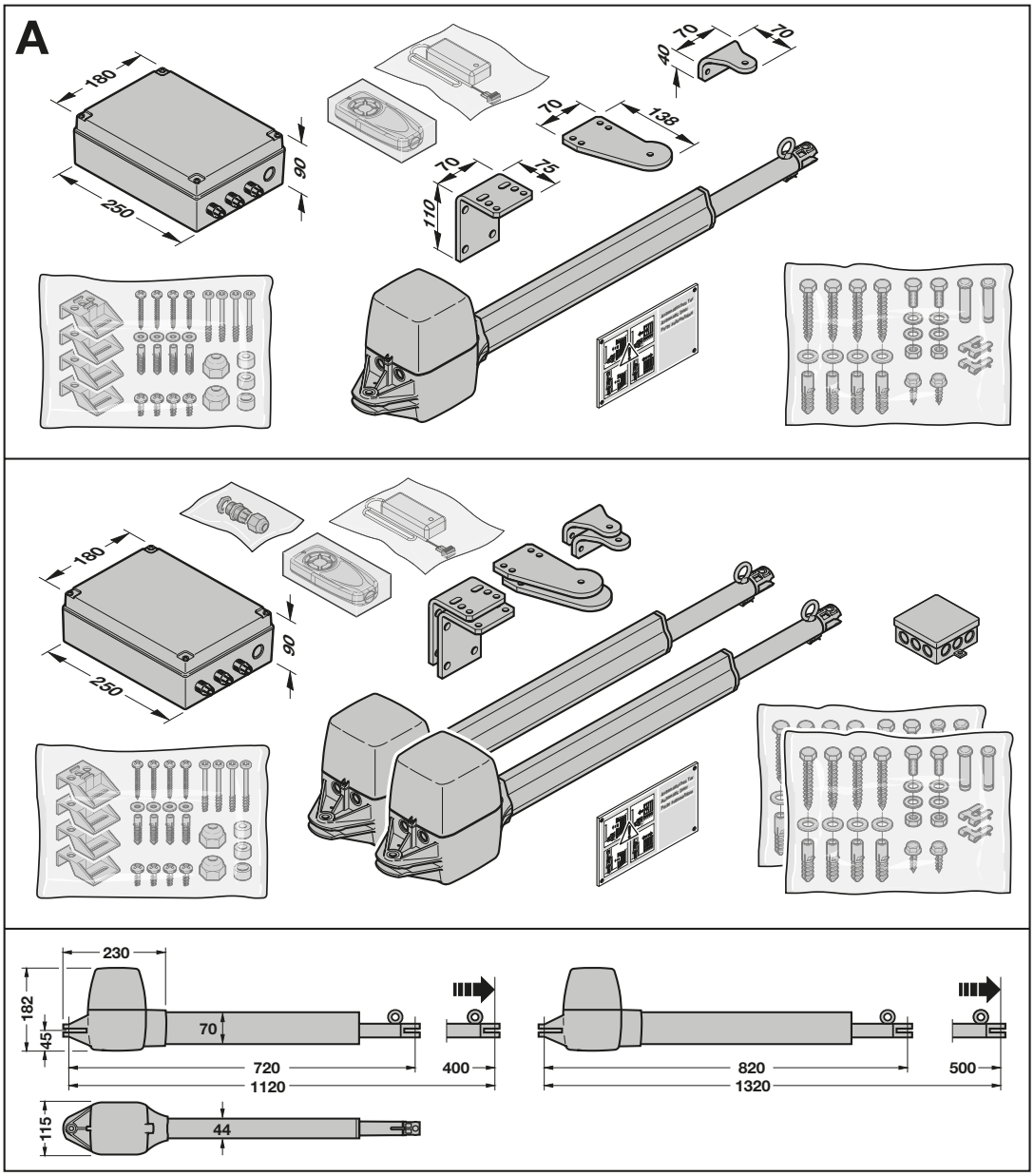
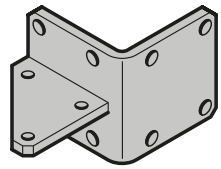


EN

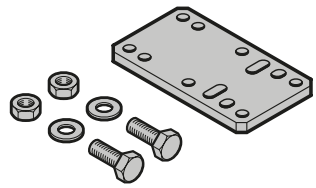
Instructions for Fitting, Operating and Maintenance
Hinged Gate Operator


A
180
250
90
70
40
70
70
138
70
75
110
180
250
90
230
182
45
70
720
1120
400
820
1320
500
115
44
B
13 mm
17 mm
2
3 mm
T20
T30
Ø 5 - 5,8 mm
Ø 6 mm
Ø 12 mm
3 mm

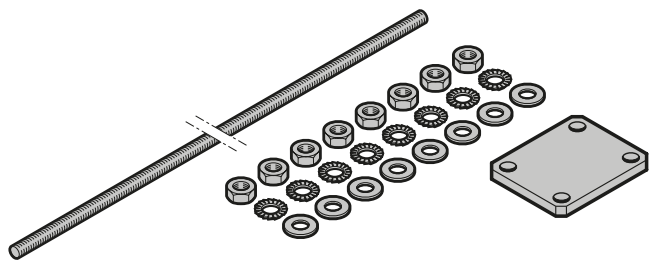
C1 436 330



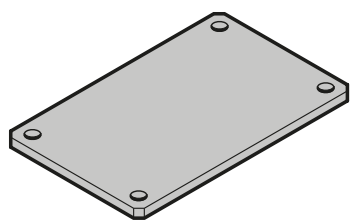
C2 436 331



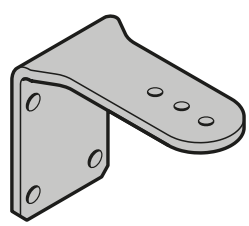
C3 436 332



C4 436 333



C5 436 451



Contents

Dissemination as well as duplication of this document and the use and communication of its content are prohibited unless explicitly permitted. Noncompliance will result in damage compensation obligations. All rights reserved in the event of patent, utility model or design model registration. Subject to changes.

Dear Customer,

We thank you for choosing a quality product from our company.

1 About these instructions

These instructions are **original operating instructions** as outlined in the EC Directive 2006/42/EC.

These instructions contain important information on the product.

- ▶ Read through all of the instructions carefully.
- ▶ Please observe the information. Please pay particular attention to the safety instructions and warnings.
- ▶ Keep these instructions in a safe place for later reference.
- ▶ Make sure that these instructions are available to the user at all times.

1.1 Further applicable documents

The following documents for safe handling and maintenance of the gate system must be placed at the disposal of the end user:

- These instructions
- The enclosed log book
- The gate instructions

1.2 Warnings used

⚠ The general warning symbol indicates a danger that can lead to **injury** or **death**. In the text section, the general warning symbol will be used in connection with the caution levels described below. In the illustrated section, an additional instruction refers back to the explanation in the text section.

⚠ DANGER

Indicates a danger that immediately leads to death or serious injuries.

⚠ WARNING

Indicates a danger that can lead to death or serious injuries.

⚠ CAUTION

Indicates a danger that can lead to minor or moderate injuries.

ATTENTION

Indicates a danger that can lead to **damage** or **destruction of the product**.

1.3 Definitions used

Hold-open phase

Waiting time for the automatic timer before the gate closes from the Open end-of-travel position or partial opening.

Automatic timer

After the set hold-open phase and pre-warning phase lapse, the gate automatically closes from the Open end-of-travel position or partial opening.

Through-traffic photocell

After passing through the gate and the photocell, the hold-open phase is shortened. The gate closes shortly afterward.

Traffic leaf

The leaf that opens in double-leaf gate systems for pedestrian passage.

Fixed leaf

The leaf that opens with the traffic leaf in double-leaf gate systems for vehicle passage.

Leaf offset

The leaf offset ensures the correct closing order in the event of overlapping fittings.

Impulse sequence control

The taught-in Impulse radio code or a button triggers impulse sequence control. With each actuation, the gate is started against the previous direction of travel, or the gate travel is stopped.

Learning runs

Gate runs during which the operator learns the following:

- Travel distances
- Forces that are required to move the gate

Normal operation

Normal operation is gate travel with taught-in travel distances and forces.

Reference run

Gate travel towards the Close end-of-travel position at a lower speed in order to set the home position.

Safety reversal / reversing

Gate travel in the opposite direction when the safety device or power limit is activated.

Reversal limit

The reversal limit is shortly before the Close end-of-travel position. If a safety device is activated, the gate runs in the opposite direction (safety reversal). This behaviour does not exist within the reversal limit.

Slow travel

The area in which the gate moves extremely slowly to softly approach the end-of-travel position.

Press-and-release operation

After an impulse, the operator automatically travels to the end-of-travel position.

Status

The current position of a gate.

Partial opening

The travel path opened for pedestrian passage.

Timeout

A defined time period within which an action is expected, e.g. menu selection or function activation. If this time period elapses without an action, the operator automatically switches back to operation mode.

Gate system

A gate with the associated operator.

Press-and-hold operation

The gate only travels while the corresponding button is pressed.

Travel

The distance the gate takes from the Open end-of-travel position to the Close end-of-travel position.

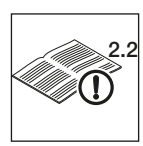
Pre-warning phase

The time between the travel command (impulse) and the start of travel.

Factory reset

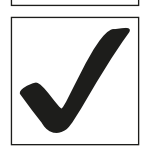
Resetting of the taught-in values to the delivery condition / factory setting.

1.4 Symbols used



See text section
In the example, **2.2** means: See text section, section 2.2

Important advice to prevent injury to persons and damage to property



Permissible arrangement or activity


Non-permissible arrangement or activity

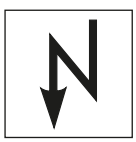

Factory setting


High exertion of force

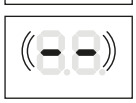

Little force required

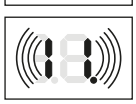

Inspect

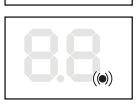

Power failure


Power restoration


Display is illuminated


Display flashes slowly


Display flashes quickly


Decimal flashes

1.5 Abbreviations used

Colour code for cables, single conductors and components

The colour abbreviations for cable and strand identification and for components conform to the international colour code in accordance with IEC 757:

WH	White	**BK**	Black
BN	Brown	**BU**	Blue
GN	Green	**OG**	Orange
YE	Yellow	**RD / BU**	Red / blue

1.6 Notes on the illustrated section

All specified dimensions in the illustrated section are in millimetres [mm].

2 ⚠ Safety instructions

ATTENTION:

IMPORTANT SAFETY INSTRUCTIONS.

FOR THE SAFETY OF PERSONS, IT IS IMPORTANT TO COMPLY WITH THE FOLLOWING INSTRUCTIONS. THESE INSTRUCTIONS MUST BE KEPT.

2.1 Intended use

The hinged gate operator is exclusively intended for the automatic operation of smooth-running hinged gates. The maximum permissible gate size and maximum weight must not be exceeded. The gate must be easy to open and close by hand.

Use on gates with a gradient or slope up to max. 6° is permitted, but only with fitting set* for lifting hinges.

Note the manufacturer's specifications regarding the gate and operator combination. Potential hazards as outlined in EN 13241-1 are avoided by construction and fitting according to our guidelines.

Gate systems that are located in a public area and which only have one protective device, such as a power limit, may only be operated under supervision.

* – Accessory not included as standard equipment. Order accessory separately!

2.2 Non-intended use

Continuous operation is not permitted.

2.3 Fitter qualification

Only correct fitting and maintenance in compliance with the instructions by a competent / specialist company or a competent / qualified person ensures safe and flawless operation of the system.

According to EN 12635, a specialist is a person with suitable training, specialist knowledge and practical experience sufficient to correctly and safely fit, test and maintain a gate system.

2.4 Safety instructions for fitting, maintenance, repairs and disassembly of the gate system

⚠ WARNING

Danger of injury in the event of faults in the gate system

- ▶ See warning in section 3.1

Danger of injury due to unexpected gate travel

- ▶ See warning in section 12

Fitting, maintenance, repairs and disassembly of the gate system and the hinged gate operator must be performed by a specialist.

- ▶ In the event of a gate or hinged gate operator failure (sluggish operation or other malfunctions), immediately commission a specialist for the inspection or repair work.

2.5 Safety instructions for fitting

The specialist carrying out the work must follow the prevailing national job safety rules and regulations and those governing the operation of electrical equipment. In the process, the relevant national guidelines must be observed. Potential hazards as outlined in EN 13241-1 are avoided by construction and fitting according to our guidelines.

After fitting is complete, the specialist must declare conformity in accordance with EN 13241-1 based on the area of application.

⚠ WARNING

Danger of injury due to unwanted gate travel

Incorrect assembly or handling of the operator may trigger unwanted gate travel that may result in persons or objects being trapped.

- ▶ Follow all the instructions provided in this manual.

⚠ WARNING

Unsuitable fixing material

Use of unsuitable fixing material may mean that the operator is not securely fixed and could come loose.

- ▶ The fitter must check whether the supplied fixing materials (plugs) are suitable for the intended fitting site and, if necessary, use different materials. The supplied fixing materials are suitable for concrete (≥ B15), but are not officially approved.

ATTENTION

Damage caused by dirt

Drilling dust and chippings can lead to malfunctions.

- ▶ Cover the operator / operators and operator control during drilling work.

2.6 Safety instructions for installation

⚠ DANGER

Risk of deadly electric shock from mains voltage

Contact with the mains voltage presents the danger of a deadly electric shock.

- ▶ Electrical connections may only be made by a qualified electrician.
- ▶ Make sure that the on-site electrical installation conforms to the applicable protective regulations (230 /240 V AC, 50 / 60 Hz).
- ▶ If the operator is permanently connected to the mains voltage, you must install an all-pole mains isolator switch with corresponding pre-fuse.
- ▶ Before all electrical work, the system must be de-energised. Safeguard the system against being switched on again without authorisation.
- ▶ If the mains connection cable is damaged, it must be exchanged by a qualified electrician to avoid danger.

⚠ WARNING

Danger of injury due to unwanted gate travel

Incorrectly fitted control devices (e.g. buttons) may trigger unwanted gate travel. Persons or objects may be trapped as a result.

- Install control devices at a height of at least 1.5 m (out of the reach of children).
- Fit permanently installed control devices (such as buttons, etc.) within sight of the gate, but away from moving parts.

Should any of the present safety devices fail, persons or objects may be trapped.

- In accordance with ASR A1.7, mount at least one easily recognisable, easily accessible emergency command device (emergency off) near the gate. In case of danger, the emergency command device stops the gate movement (see section 4.3.3).

ATTENTION

Malfunctions in the connection cables

Connection cables and supply cables laid together can result in malfunctions.

- Duct the operator's connection cables (24 V DC) in an installation system that is separate from the supply lines (230 / 240 V AC).

External voltage at the connecting terminals

External voltage at the connecting terminals of the control will destroy the electronics.

- Do not apply any mains voltage (230/240 V AC) to the connecting terminals of the control.

Damage due to moisture

Penetrating moisture can damage the control.

- When opening the control housing, protect the control from moisture.

2.7 Safety instructions for initial start-up and for operation

⚠ WARNING

Danger of injury during gate travel

If people or objects are in the area around the gate while the gate is in motion, this can lead to injuries or damage.

- Children are not allowed to play near the gate system.
- Make sure that no persons or objects are in the gate's area of travel.
- If the gate system has only one safety feature, only operate the hinged gate operator if you are within sight of the gate's area of travel.
- Monitor the gate travel until the gate has reached the end-of-travel position.
- Only drive or pass through remote-control gate systems when the gate is at a standstill!
- Never stand in the opening of the gate system.

⚠ WARNING

Risk of crushing at the main closing edge and the secondary closing edges

During gate travel, fingers or extremities may be crushed between the gate and main closing edge or the secondary closing edge.

- Do not reach toward the main closing edge or secondary closing edges during gate travel.

⚠ CAUTION

Danger of injury due to incorrectly selected operator type

- See warning in section 5.1

2.8 Safety instructions for using the hand transmitter

⚠ WARNING

Danger of injury during gate travel
- ▶ See warning in section 9

⚠ CAUTION

Danger of injuries due to unintended gate travel
- ▶ See warning in section 9

Danger of burns from the hand transmitter
- ▶ See warning in section 9

2.9 Approved safety equipment

The following functions or components, where available, meet cat. 2, PL “c” in accordance with EN ISO 13849-1:2008 and were constructed and tested accordingly:

- Internal power limit
- Tested safety equipment

If such properties are needed for other functions or components, this must be tested individually.

⚠ CAUTION

Danger of injuries due to faulty safety equipment
- ▶ See warning in section 7.2

2.9.1 Safety instructions for complying with the operating force

If you observe these instructions **in addition to** the following conditions, compliance of the operating force in accordance with EN 12453 / 12445 can be assumed.

- Refer to table **1a / 1b** and select a combination of A-dimension and B-dimension from the area shaded in grey (preferred area).
- The gate’s centre of gravity is in the centre (maximum permissible deviation ±20 %).
- Sound-absorbing seal DP 2 with the corresponding C-profile is fitted at the closing edges. This has to be ordered separately (article no. 436 304 + article no. 2900170).
- The reversal limit for an opening width of 50 mm is checked and maintained along the entire length of the main closing edge.

3 Fitting

ATTENTION:

IMPORTANT INSTRUCTIONS FOR SAFE INSTALLATION.

FOLLOW ALL INSTRUCTIONS; INCORRECT FITTING CAN LEAD TO SERIOUS INJURIES.

3.1 Checking and preparing the gate / gate system

⚠ WARNING

Danger of injury in the event of faults in the gate system

A malfunction in the gate system or incorrectly aligned gates can cause serious injuries!
- ▶ Do not use the gate system if repair or adjustment work must be conducted!
- ▶ In addition, check the entire gate system (joints, gate bearings and fastenings) for wear and possible damage.
- ▶ Check whether rust, corrosion or cracks are present.

The hinged gate operator is not designed for the operation of sluggish gates. These gates are either difficult or impossible to open or close manually.

The gate must be in a flawless mechanical condition so that it can be easily operated by hand (EN 12604).

- ▶ Check whether the gate can be opened and closed correctly.
- ▶ The mechanical locking devices of the gate that are not needed with an operator must be put out of operation.
- ▶ If necessary, disassemble the mechanical locking completely. This includes in particular any locking mechanisms connected with the gate lock.
- ▶ For gates with a gradient or slope (max. 6°), use the fitting set* for lifting hinges. On site, secure the gate from snapping shut (see section 3.5).
- ▶ When using gate infills, take the regional wind loads into consideration (EN 13241-1).

3.2 Notes on fitting

The following conditions achieve a long operator service life:

- The gate travel is smooth.
- The fitting dimensions are selected from the preferred area in table **1a/1b**.
- For smooth gate travel speed, the A-dimension and B-dimension are nearly equal. The difference should not exceed 40 mm.

* – Accessory not included as standard equipment. Order accessory separately!

- The gate travel speed has a direct influence on the occurring forces. The speed at the gate closing edges should be as low as possible:
  – Use the entire spindle stroke if possible.
  – An increasing B dimension reduces the speed on the *Close* gate closing edge.
  – An increasing A dimension reduces the speed on the *Open* gate closing edge.
  – For a large gate opening angle, select a larger A dimension (see table in figure **1a / 1b**).
- The maximum gate opening angle always decreases with an increasing B dimension.
- To decrease the overall forces on the operator and control system, select
  – the B-dimension as large as possible
  – the distance between the pivot point of the gate and the spindle fastening on the gate as large as possible.

3.3 Fastening the fittings

The provided fittings are galvanized and thus prepared for follow-up treatment.

Stone pillar or concrete pillar

Note the recommendations for the distances to the edge for dowel holes. For the supplied dowels, this minimum distance is one dowel length.

Turn the dowels so that the expansion direction of the dowel is parallel to the edge.

Adhesive bond anchors with a headless screw bonded in the brickwork voltage-free offer an improvement.

For brickwork pillars, attach a large post wall plate covering multiple stones to which the support bracket can be fitted.

Steel posts

Check whether the available support is sufficiently stable. If not, reinforce the support. The use of rivet nuts also makes sense. Weld the fittings on as well.

Timber posts

Tighten the screws for the support bracket through the post. Use large steel washers on the backside of the post. A post counterplate* is even more suitable to ensure the fastenings do not loosen.

Accessories for fastening the fittings:

▶ See overview C

436 330	Post corner bracket
436 331	Extension plate
436 332	Post counterplate
436 333	Post wall plate
436 451	Post bracket

3.4 Determining the attachment dimensions

1. Determine the C dimension.
2. Determine the largest possible A dimension as follows:
   – Switch to table **1a / 1b**.
   – In the **C** column choose the row that comes closest to the C dimension.
   – In this row, choose the required opening angle.
   – Read off the A dimension at the top.
3. Determine the drilling position for the support bracket on the pillar / post. For more information on fastening the fittings, see section 3.3.
4. After drilling, check the depth of the hole.

NOTE:

- An opening angle that was chosen unnecessarily high is detrimental to the gate travel behaviour.
- If no suitable B(C) dimension can be determined,
  – use a different hole pattern on the post fitting,
  or
  – support the post fitting,
  or
  – use an extension plate*.
- The values specified in the table are only standard values.

3.5 Lifting hinges

Use is permitted on gates with a gradient or slope up to max. 6°.

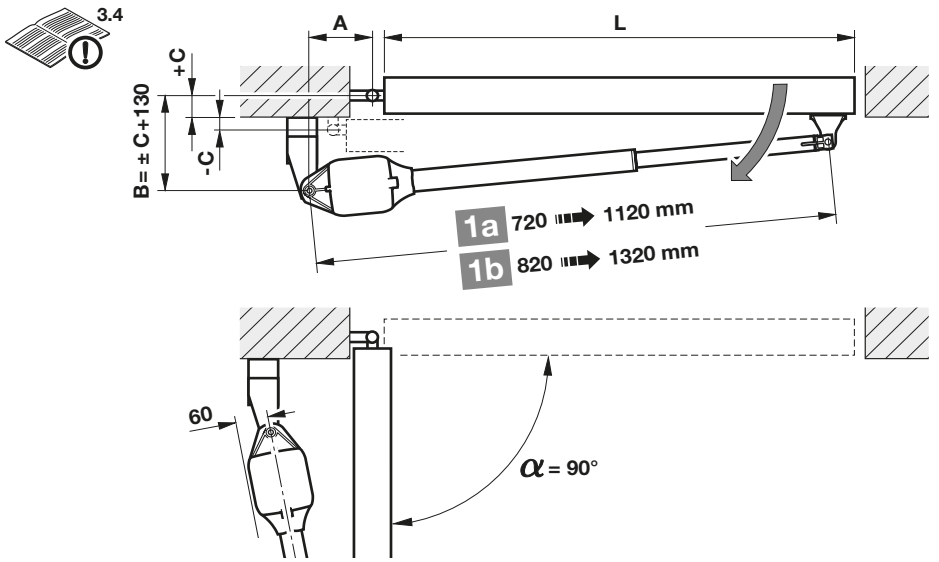
▶ For hinged gates with lifting hinges, use the fitting set* from the accessories (see figure 2.1b).

If lifting hinges are used.

▶ On site, secure the gate from snapping shut (e.g. with a single-direction brake cylinder, tension spring, etc.).

* – Accessory not included as standard equipment. Order accessory separately!

1



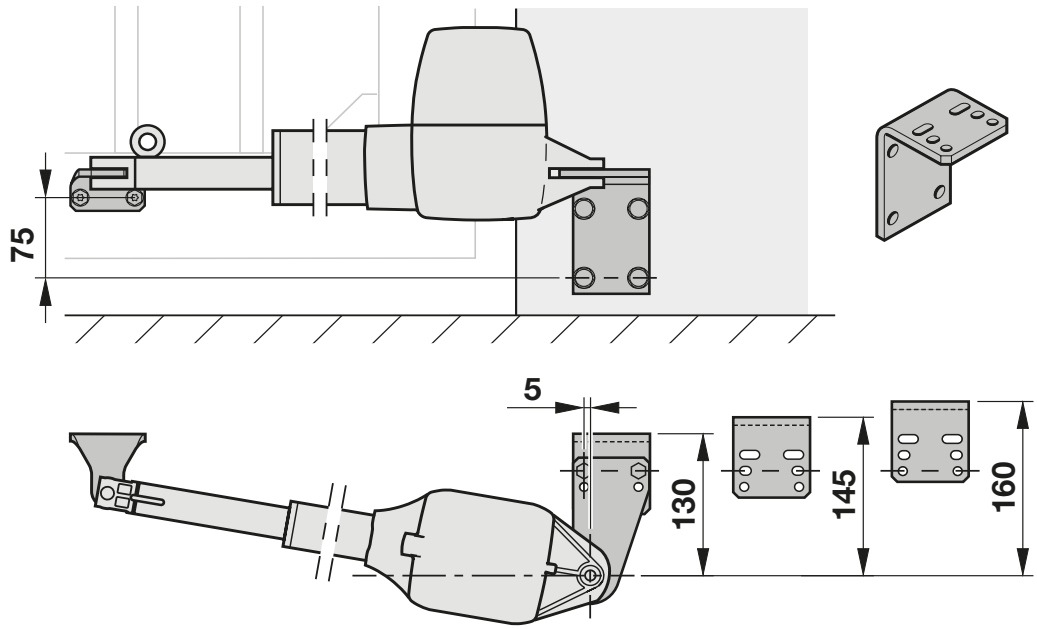
1a **L** = 1000 ➡ 2500 mm, C = -30 ➡ +150 mm

B [mm]	C [mm]	A [mm] 100	110	120	130	140	150	160	170	180
100	**-30**	95°	100°	105°	110°	115°	118°	120°	122°	125°
120	**-10**	95°	100°	105°	108°	112°	115°	117°	120°	122°
140	**10**	95°	100°	103°	105°	108°	112°	115°	118°	120°
160	**30**	95°	98°	100°	102°	105°	108°	112°	115°	110°
180	**50**	93°	96°	98°	100°	103°	105°	108°	103°	98°
200	**70**	93°	96°	98°	100°	103°	105°	100°	95°	92°
220	**90**	93°	95°	97°	99°	102°	97°	93°	90°	–
240	**110**	93°	95°	97°	99°	94°	90°	–	–	–
260	**130**	92°	94°	90°	–	–	–	–	–	–
280	**150**	90°	–	–	–	–	–	–	–	–

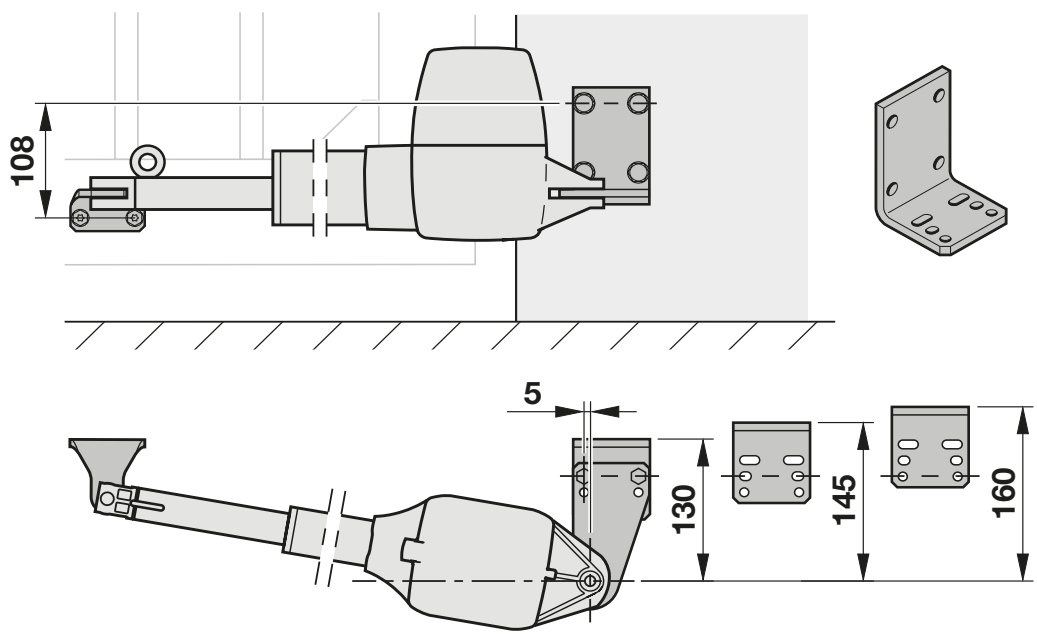
1b **L** = 1500 ➡ 4000 mm, C = -30 ➡ +210 mm

B [mm]	C [mm]	A [mm] 100	110	120	130	140	150	160	170	180
100	**-30**	95°	100°	105°	110°	115°	118°	120°	122°	125°
120	**-10**	95°	100°	105°	108°	112°	115°	117°	120°	122°
140	**10**	95°	100°	103°	105°	108°	112°	115°	118°	120°
160	**30**	95°	98°	100°	102°	105°	108°	112°	115°	117°
180	**50**	93°	96°	98°	100°	103°	105°	108°	112°	114°
200	**70**	93°	96°	98°	100°	103°	105°	107°	110°	112°
220	**90**	93°	95°	97°	99°	102°	104°	107°	108°	110°
240	**110**	93°	95°	97°	99°	101°	103°	106°	106°	108°
260	**130**	92°	94°	97°	99°	100°	102°	105°	105°	105°
280	**150**	90°	94°	96°	98°	100°	102°	103°	96°	94°
300	**170**	90°	94°	96°	97°	99°	97°	93°	90°	–
320	**190**	90°	93°	95°	93°	92°	–	–	–	–
340	**210**	90°	93°	90°	–	–	–	–	–	–

1.1a



1.1b



3.6 Fitting the operator

- Note the safety instructions in section 2.5.
  - *Unsuitable fixing material*

ATTENTION!

Damage caused by dirt

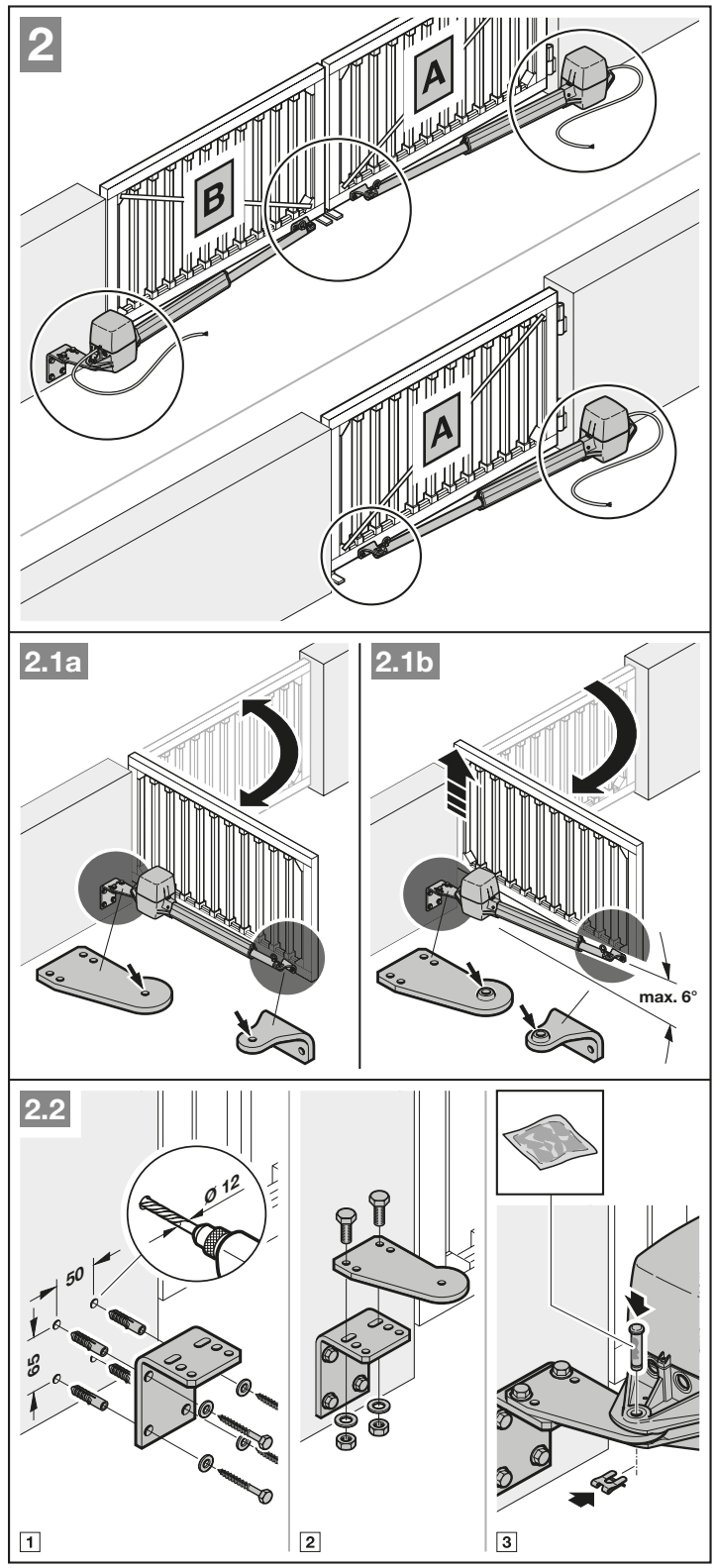
- During drilling work, protect the operator from drilling dust and chippings.

- During fitting, ensure horizontal, stable and secure fastening to the pillar or post and gate leaf.
- Use suitable fixing material. Non-suitable fastening materials do not withstand the forces occurring during opening and closing.

NOTE:

Deviating from the illustrated section: For other gate types, you must use suitable fastening materials with different depths of thread engagement (e.g. for timber gates, the corresponding woodscrews).

1. Fit the post fitting.
2. Grease the bolt.
3. Attach the operator to the post fitting.



4. Unscrew the linking bar to the maximum dimension.
5. To create a reserve, screw the linking bar back 1 turn.

Not for

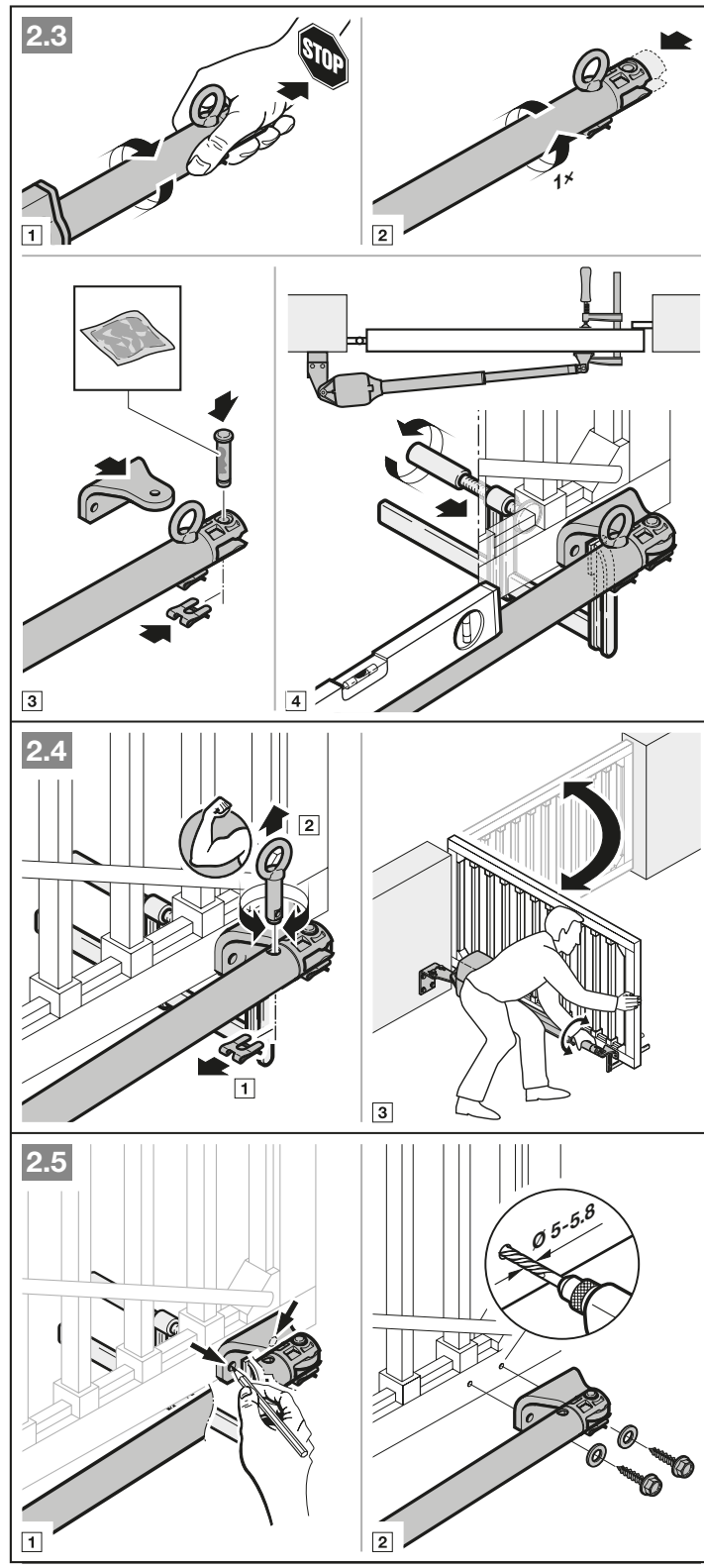
C dimension	Operator
150 mm	720 ➜ 1120 mm
210 mm	820 ➜ 1320 mm

6. Grease the bolt.
7. Provisionally fix the linking bar fitting with a screw clamp to the closed gate.
8. To check the final dimensions:
   – Disengage the operator.
   – Manually move the gate to the desired end-of-travel positions.
9. Mark the drilling holes on the gate.
10. Remove the screw clamp.
11. Drill the holes.
12. Mount the fitting.

NOTE:

Deviating from the illustrated section: Depending on the material thickness and strength, the required core hole diameter can change, e.g. for

- Aluminium Ø 5.0 – 5.5 mm
- Steel Ø 5.7 – 5.8 mm



3.7 Fitting the operator control

- ▶ Fit the operator control vertically with the cable glands towards the bottom.
- ▶ To retrofit cable glands, punch through the pre-stamped break points only if the cover is closed.
- ▶ The length of the connection cable between the operator / operators and the operator control must not exceed 30 m.

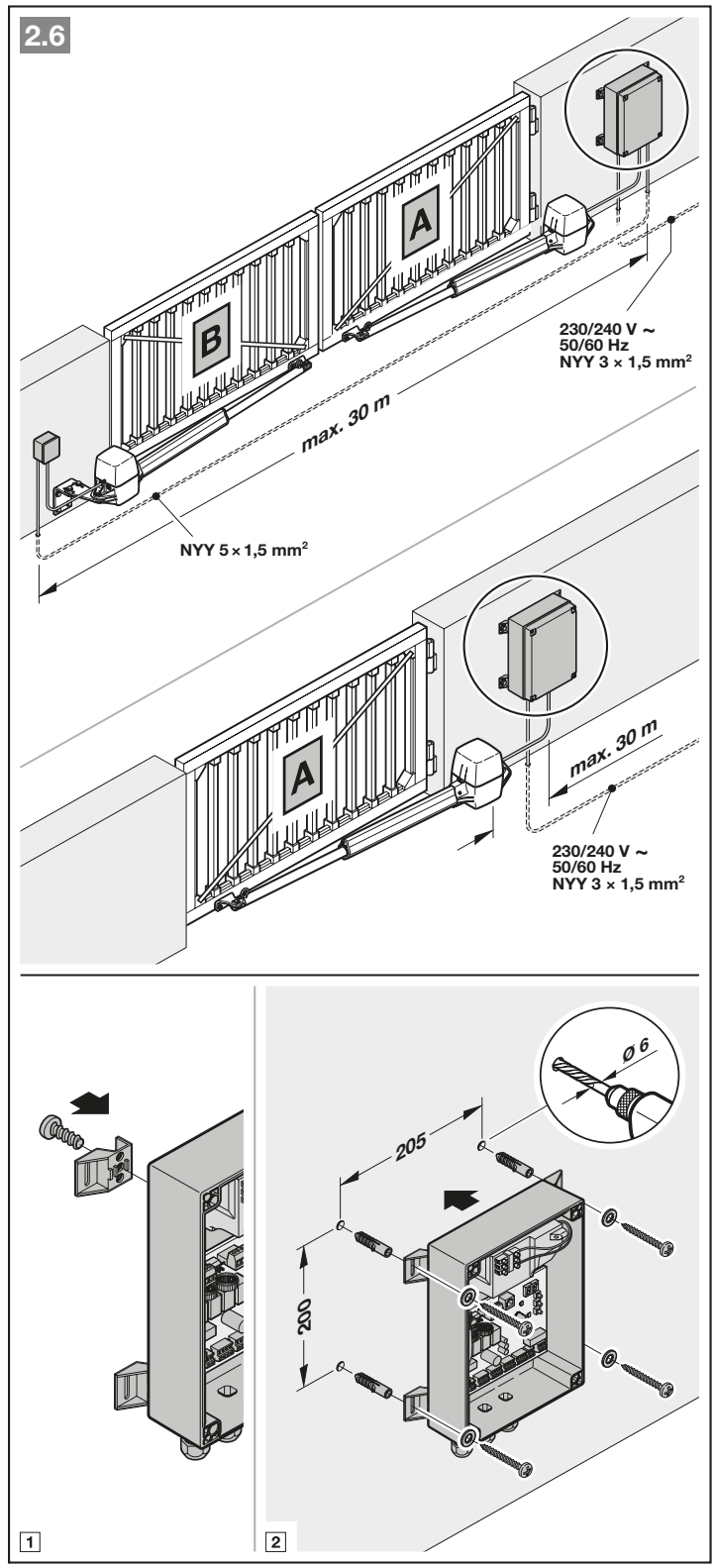
To fit the operator control:

1. Remove the lid of the operator control.
2. Mount the 4 legs of the operator control.
3. Mark the drilling holes.
4. Drill the holes and fit the operator control.

ATTENTION!

Damage caused by dirt

- ▶ During drilling work, protect the operator from drilling dust and chippings.



4 Installation

- Note the safety instructions in section 2.6.
  - *Risk of deadly electric shock from mains voltage*
  - *Malfunctions in the connection cables*

ATTENTION!

Damage due to moisture

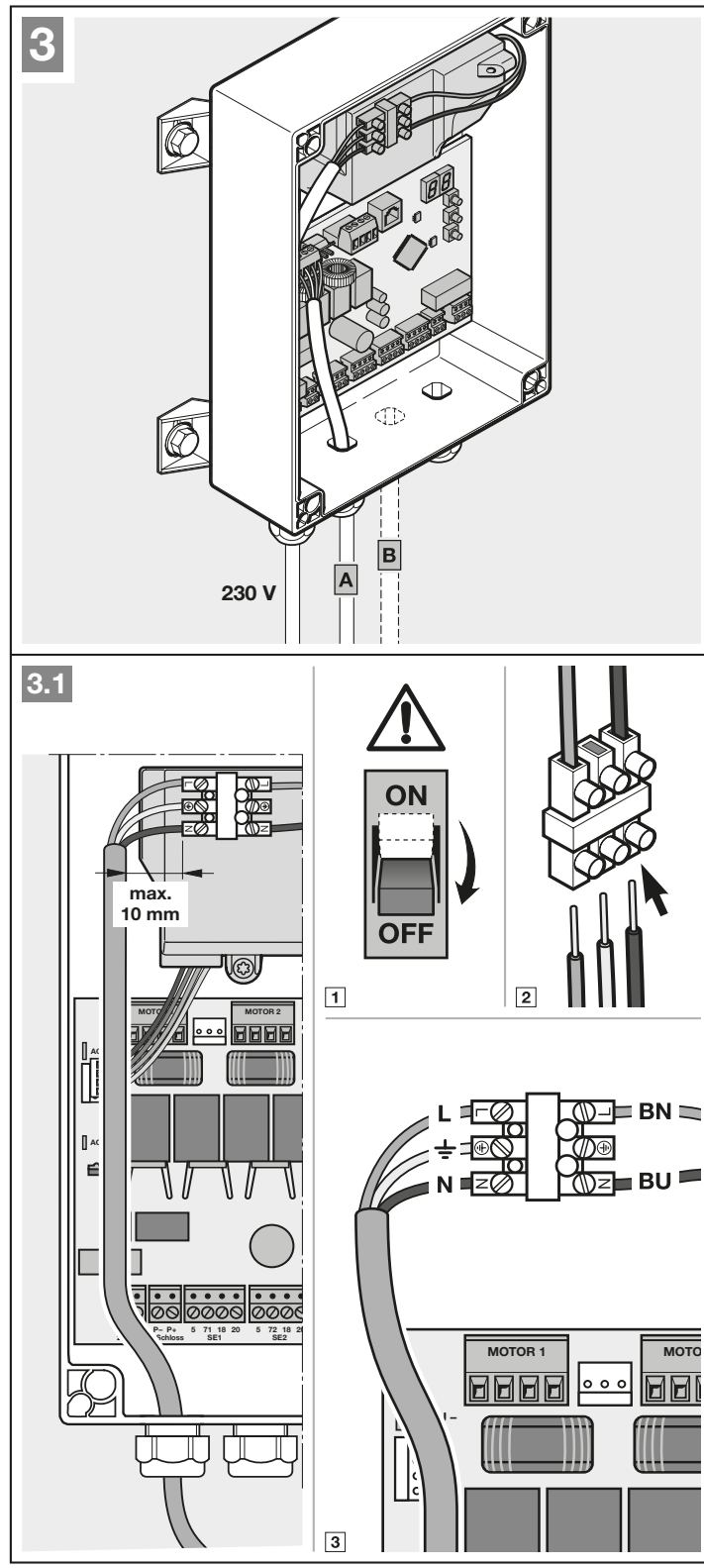
- When opening the operator housing, protect the control from moisture.

- Pull all cables from the bottom without warping into the operator control and the operator/s.
- Connect the mains lead (3 × 1.5 mm²) directly to the plug terminal on the power supply unit.

NOTES:

For all leads underground, use underground cables NYY-J 3 × 1.5 mm² or 5 × 1.5 mm².

If the connection to the operator leads have to be extended with underground cables, use a splash-water protected junction box (protection category IP 65, to be provided on-site).



4.1 Connecting operators

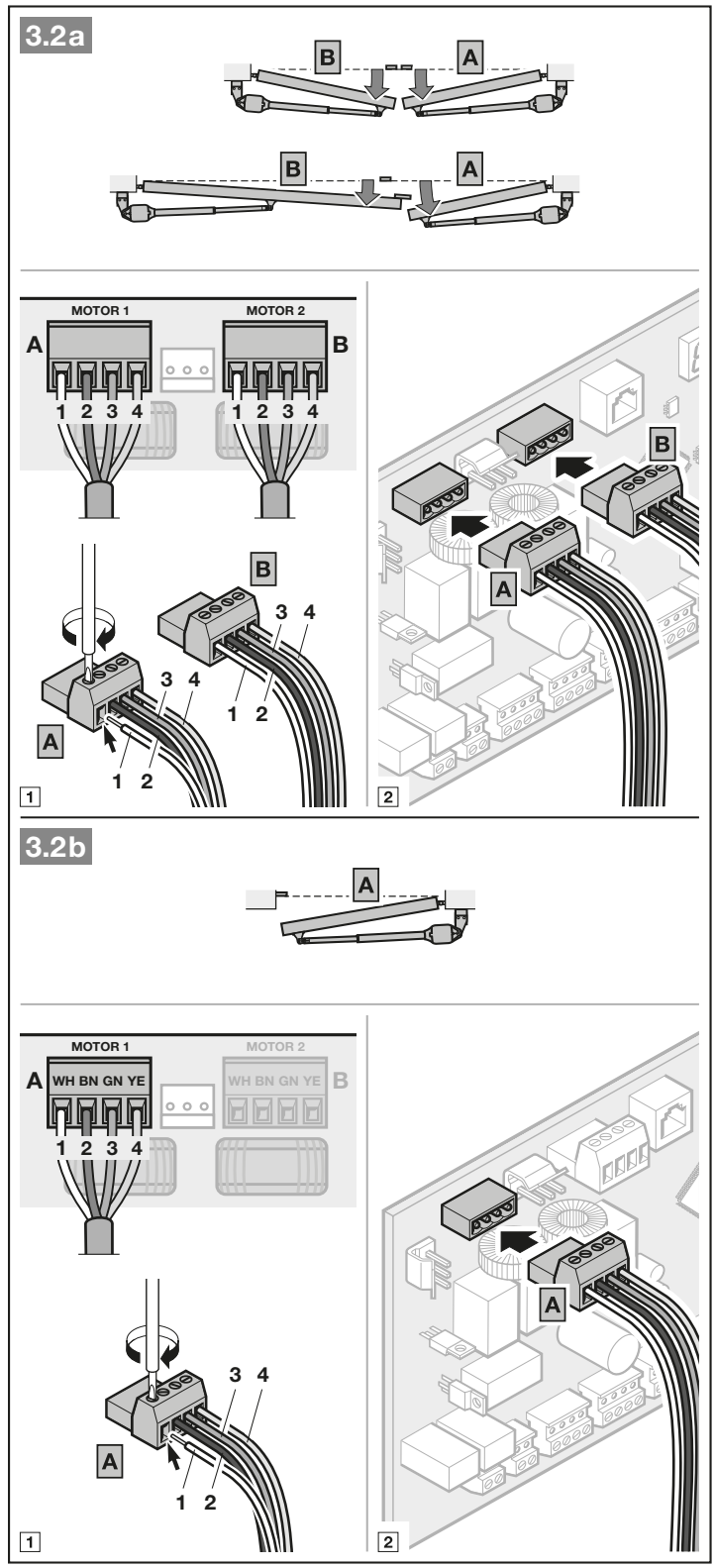
Double-leaf gate system

Leaf **A**	The leaf that should open first.
	The smaller leaf if the leaves have different sizes.
Leaf **B**	The larger leaf if the leaves have different sizes.

- ▶ Plug the connection cable for leaf **A** into the **Motor 1** connector on the circuit board.
- ▶ Plug the connection cable for leaf **B** into the **Motor 2** connector on the circuit board.

Single-leaf gate system

- ▶ Connect the connection cable to the **Motor 1** connector on the circuit board.



- In the operator, plug the connection cable into the socket on the motor connection circuit board.

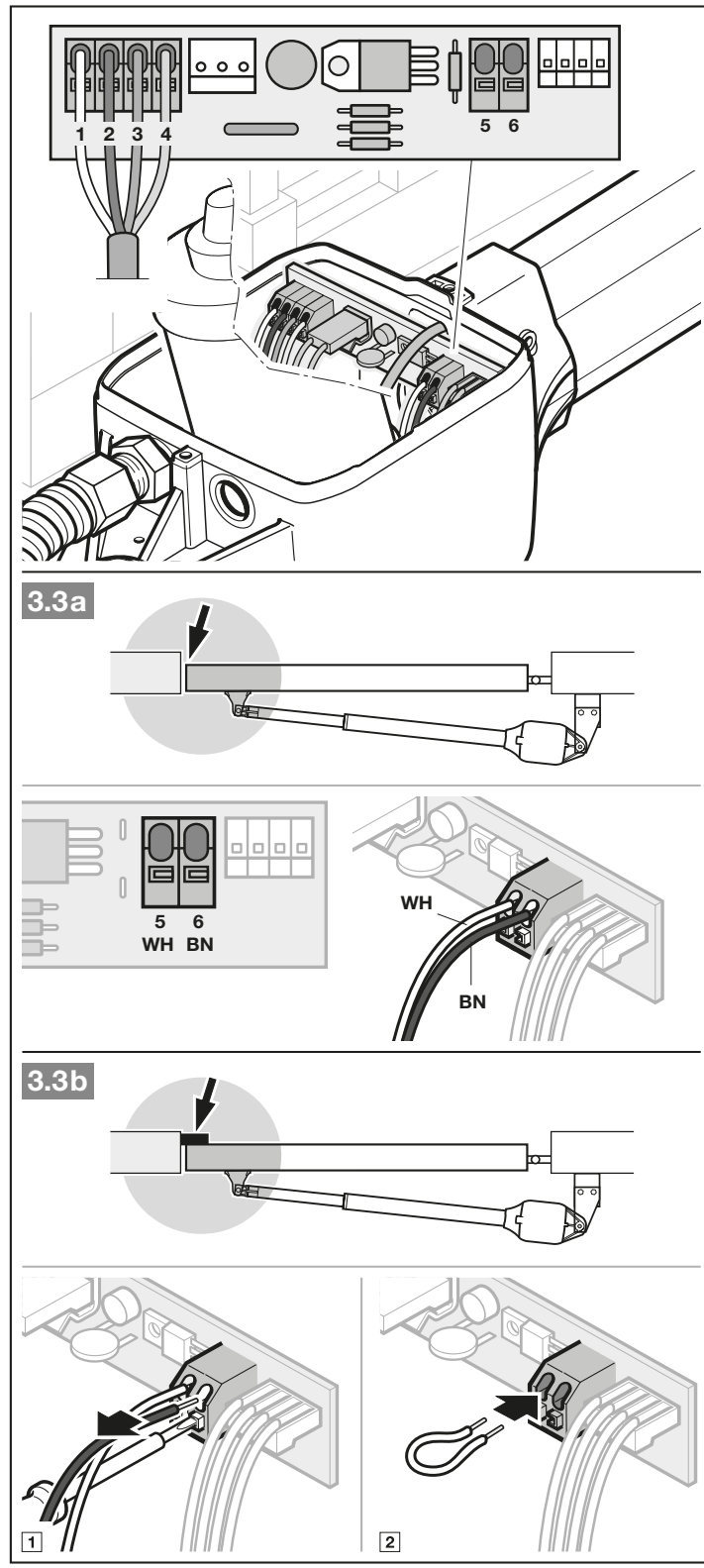
4.2 Connecting integrated limit switches

If there are **no** end stops on-site.

- Make sure that the wires of the limit switch are connected to the terminals **5/6**.

If there are end stops on-site:

- Instead of the wires of the limit switch, connect a wire jumper (made available on-site) to the terminals **5/6**.



4.3 Connecting additional components / accessories

▶ Note the safety instructions in section 2.6.

ATTENTION!
If external voltage is applied, it will destroy the electronics.

▶ Do not apply any mains voltage (230 / 240 V AC) to the connecting terminals.

All connecting terminals can have multiple assignments:

- Minimum thickness: 1 × 0.5 mm²
- Maximum thickness: 1 × 2.5 mm²

The system jack BUS enables the connection of accessories with special functions. Connected accessories are automatically detected.

NOTE:

Loading of the operator by all accessories: **max. 250 mA**. See the figures for component power consumption.

4.3.1 External radio receiver

▶ Connect the wires of an external radio receiver as follows:

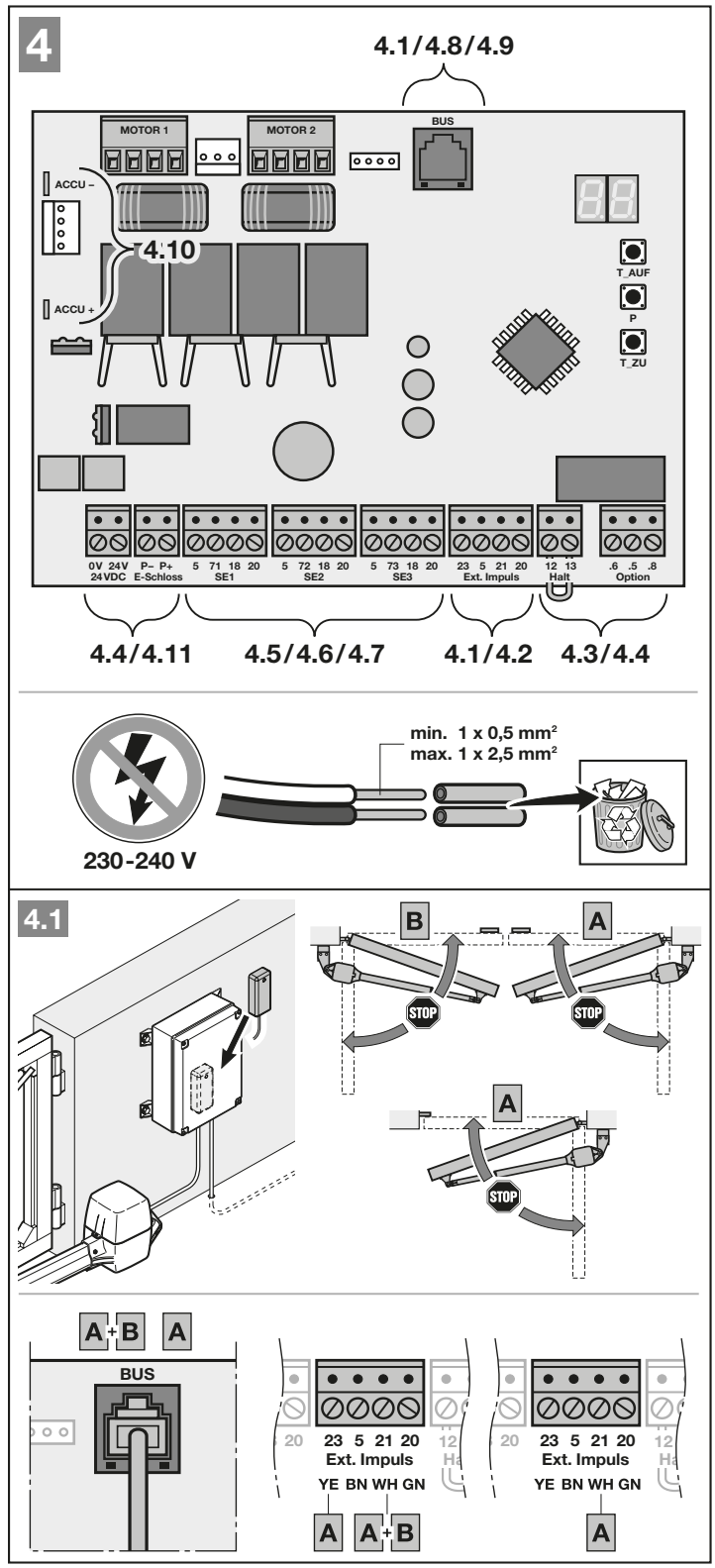
GN	Terminal **20** (0 V)
WH	Terminal **21** (channel 1 signal)
BN	Terminal **5** (+24 V)
YE	Terminal **23** (channel 2 partial opening signal)

Or

▶ Insert the plug of the BDE221 receiver in the corresponding socket.

Or

▶ Connect an external radio receiver BDH340 to the system jack BUS.



4.3.2 External button*

One or more buttons with normally open contacts (volt-free or switching to 0 V), e.g. key switch, can be connected in parallel.

Cable length: max. 30 m.

Double-leaf gate system

Impulse control, travel command for traffic leaf (A):

1st contact	Terminal **23**
2nd contact	Terminal **20**

Impulse control, travel command for traffic leaf (A) and fixed leaf (B):

1st contact	Terminal **21**
2nd contact	Terminal **20**

Single-leaf gate system

Impulse control, travel command for partial opening:

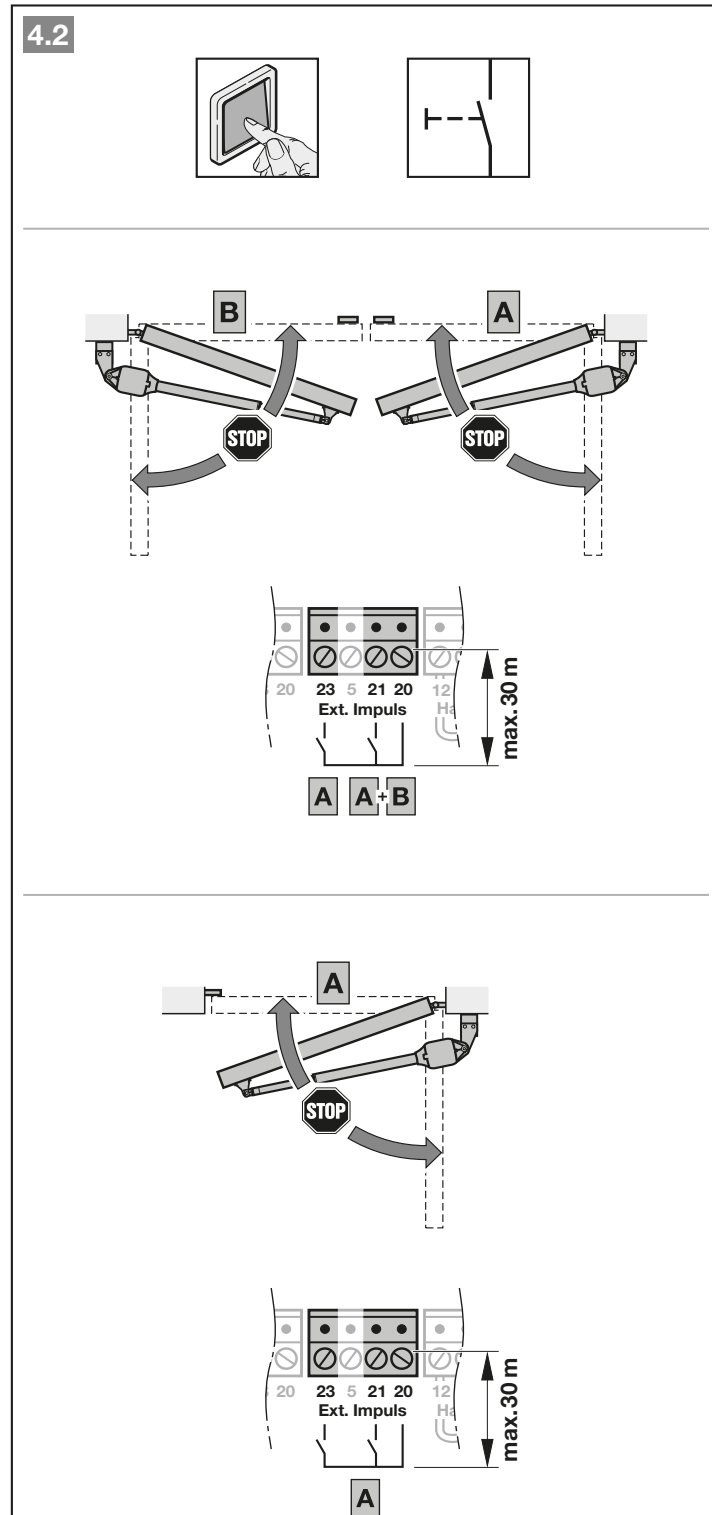
1st contact	Terminal **23**
2nd contact	Terminal **20**

Impulse control:

1st contact	Terminal **21**
2nd contact	Terminal **20**

NOTE:

If auxiliary voltage is required for an external button, a voltage of +24 V DC is available on terminal **5** (to terminal **20** = 0 V).



* – Accessory not included as standard equipment.

4.3.3 Cut-off (stop or emergency off)*

Connect a cut-off with normally closed contacts (volt-free or switching to 0 V) as follows:

1. Remove the wire jumper inserted at the factory between terminal **12** + **13**.

Terminal **12**	Stop or emergency off input
Terminal **13**	0 V

2. Connect the switch contacts.

NOTE:

Opening the contact immediately stops gate travel. The gate travel is aborted completely.

4.3.4 Warning light SLK*

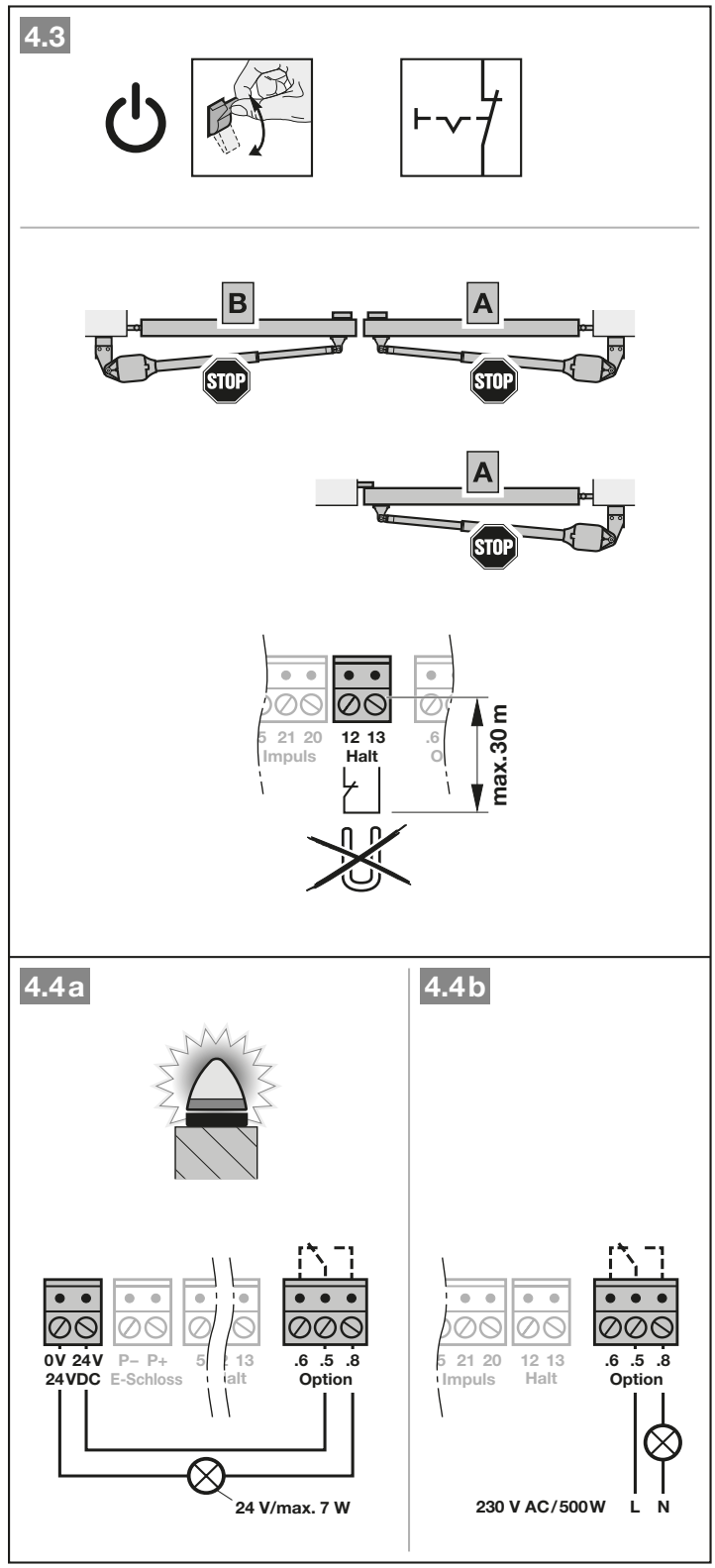
Connect a warning light to the volt-free contacts on the *Option* plug.

To operate a 24 V lamp (max. 7 W), use the voltage on plug 24 V⎓, e.g. for warnings before and during gate travel.

- ▶ Set the function in menu 31.

NOTE:

- ▶ Supply a 230 V warning light via external mains voltage.
- ▶ Insulate the wires of the mains voltage cables with additional insulation (e.g. a protective sleeve) until connected.



* – Accessory not included as standard equipment!

4.3.5 Safety equipment*

On the safety circuits **SE1**, **SE2** and **SE3**, connect the safety devices, such as:

- Photocell,
- Resistance contact strip 8k2.

If you want to connect 2 photocells per safety circuit, the photocell expander LSE 2* is required.

NOTE:

Safety equipment (e.g. light barrier EL 301) must be connected prior to commissioning, in order that it is detected and saved automatically. After the learning run, connected safety elements and untested light barriers (e.g. EWLS AP4) will not be detected automatically and must be activated in the advanced menus (only available separately for qualified specialist dealers).

Check the non-testing safety devices (e.g. static photocells) every six months.

Safety devices without self-testing are only permitted for property protection!

Safety equipment SE1

SE1	• 2-wire photocell, dynamic • 3-wire photocell, static without testing • Resistance contact strip 8k2

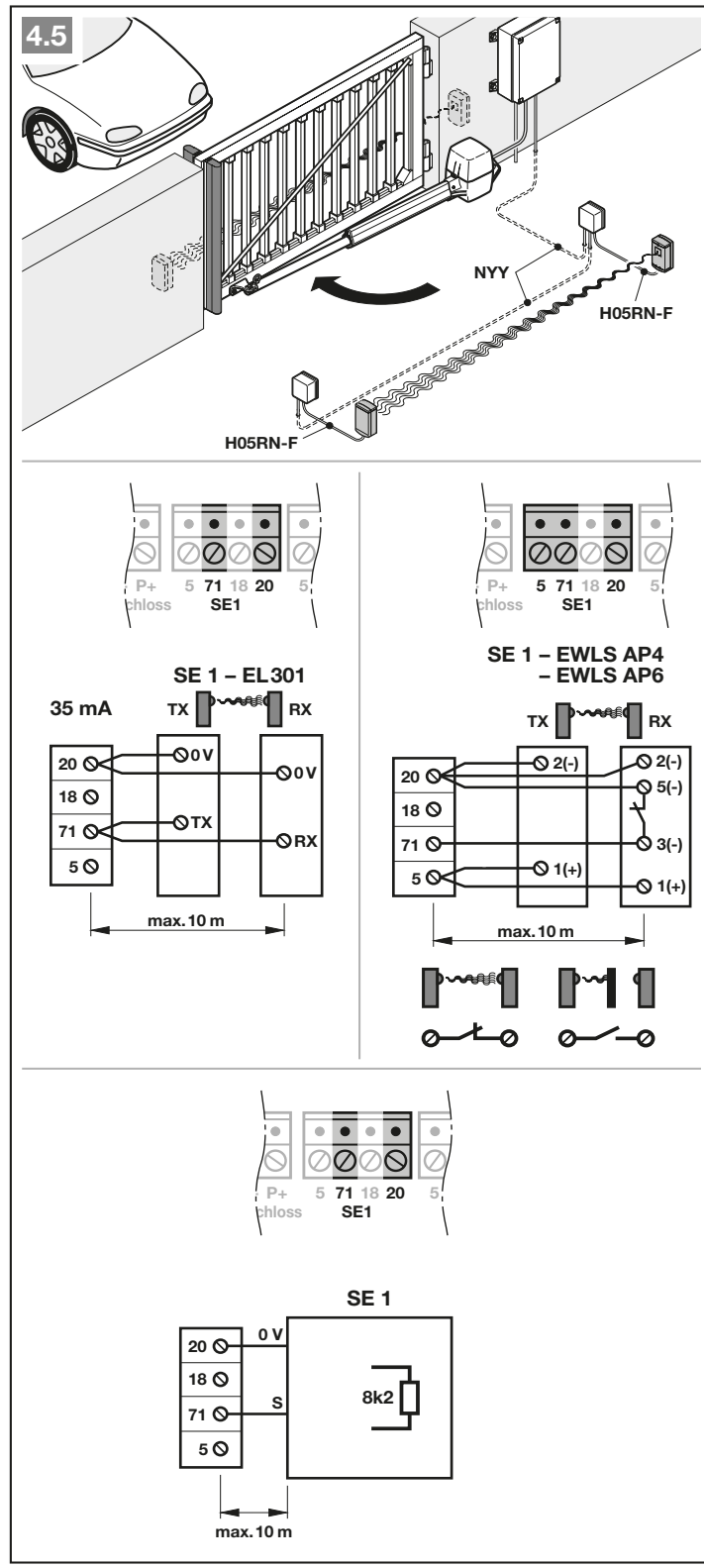
Terminal assignment:

Terminal **20**	0 V (power supply)
Terminal **18**	Test signal
Terminal **71**	Input, switch signal SE1
Terminal **5**	+24 V (power supply)

Set the effective direction and reversal behaviour in the advanced menus. If necessary, contact your specialist dealer.

	Effective direction Close, brief reversing

* – Accessory not included as standard equipment!



Safety equipment SE2

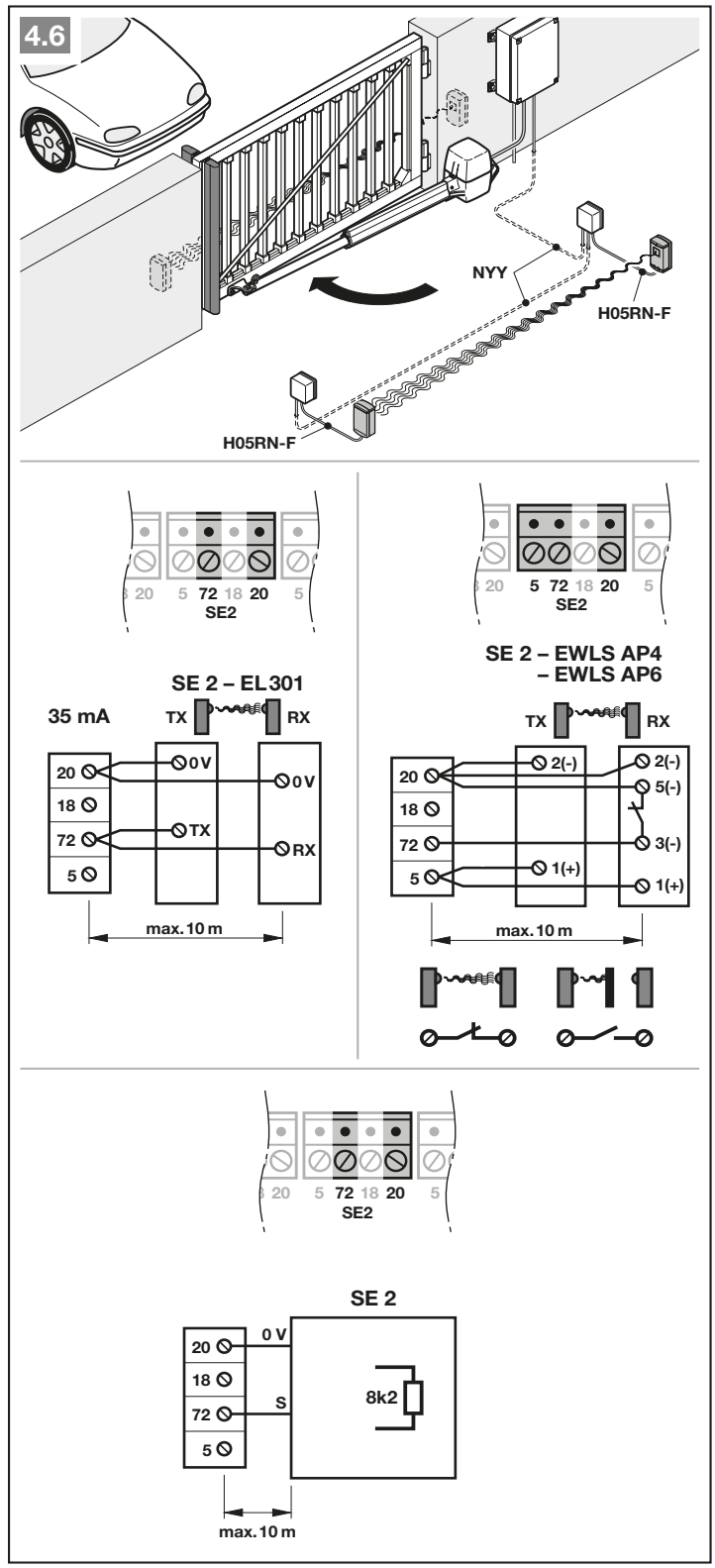
SE2	• 2-wire photocell, dynamic • 3-wire photocell, static without testing • Resistance contact strip 8k2

Terminal assignment:

Terminal **20**	0 V (power supply)
Terminal **18**	Test signal
Terminal **72**	Input, switch signal SE2
Terminal **5**	+24 V (power supply)

Set the effective direction and reversal behaviour in the advanced menus. If necessary, contact your specialist dealer.

	Effective direction Close, brief reversing



Safety equipment SE3

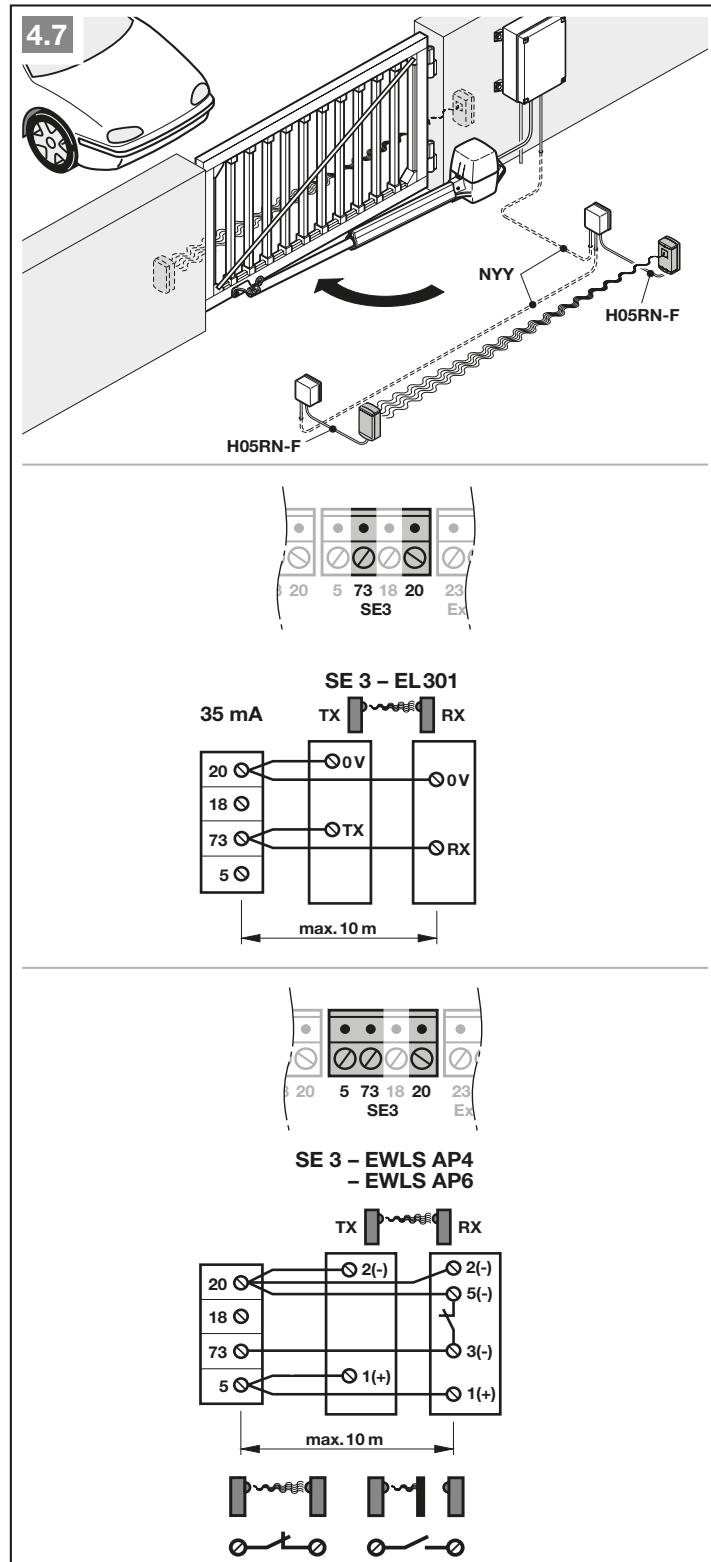
SE3	• 2-wire photocell, dynamic • 3-wire photocell, static without testing

Terminal assignment:

Terminal **20**	0 V (power supply)
Terminal **18**	Test signal
Terminal **73**	Input, switch signal SE3
Terminal **5**	+24 V (power supply)

Set the effective direction and reversal behaviour in the advanced menus. If necessary, contact your specialist dealer.

	Effective direction Close, brief reversing



4.3.6 Option relay HOR 1*

Option relay HOR 1 is required to connect an external lamp or warning light.

▶ Set the function in menu 30.

4.3.7 Universal adapter print UAP 1*

Connection option for the universal adapter print UAP 1.

The universal adapter print UAP1 is used for the following additional functions:

- For choosing direction (*open* / *close*) and partial opening via external control elements,
- For *open* and *close* limit switch reporting, or
- For switching external lighting (2-min light), e.g. outdoor lighting.

▶ Set the function in menu 30.

4.3.8 Emergency battery HNA-Outdoor*

To close the gate in the event of a power failure, an optional emergency battery can be connected. The system is switched to battery operation automatically.

⚠ WARNING

Danger of injury due to unexpected gate travel

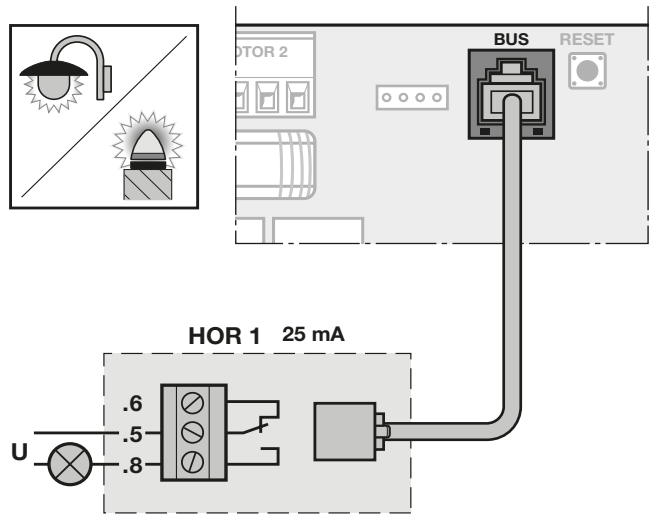
Unexpected gate travel can occur if the gate system is de-energised and an emergency battery is connected.

▶ Before all electrical work, the gate system must be de-energised.

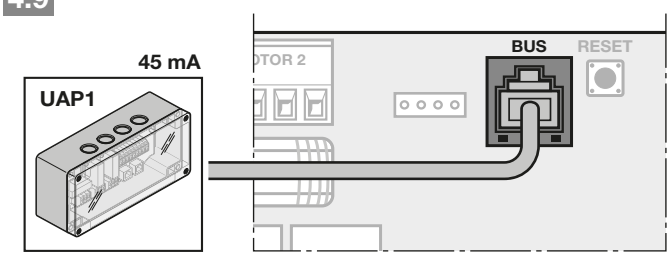
▶ Unplug the emergency battery plug.

▶ Safeguard the gate system against being switched on again without authorisation.

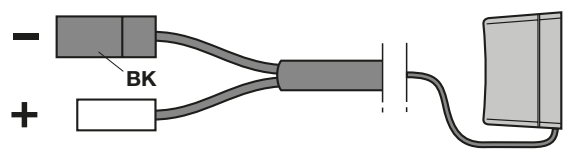
4.8

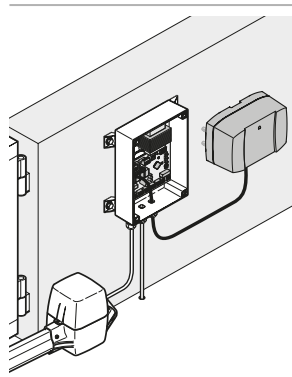


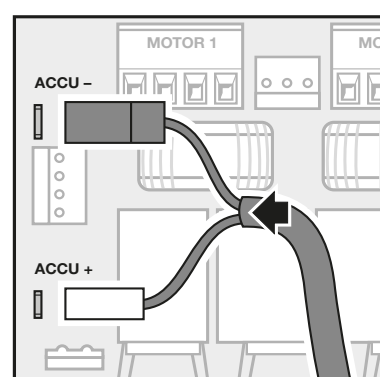
4.9



4.10

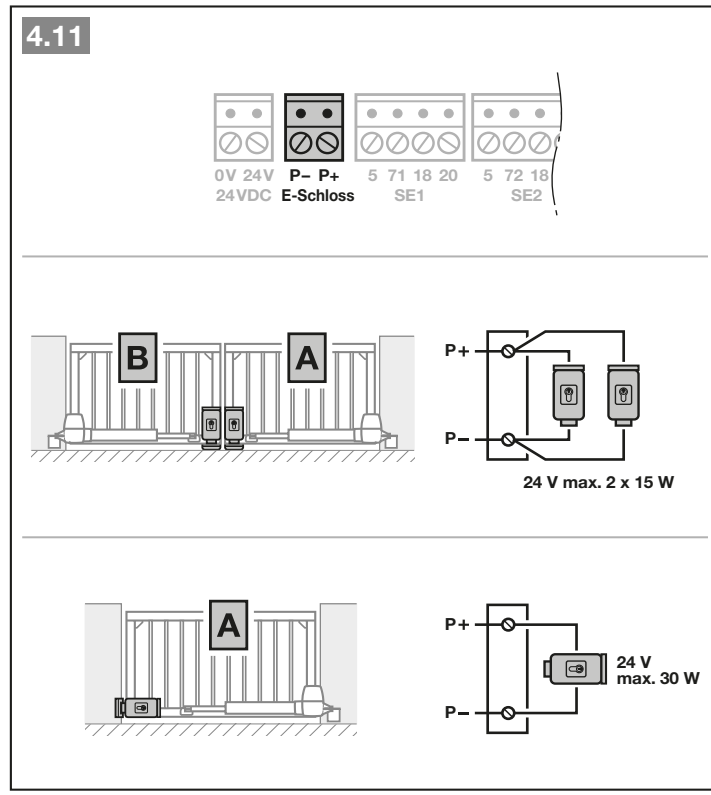






4.3.9 Electric lock*

- Connect the wires to the **E-Schloss (electric lock)** connecting terminals.



* – Accessory not included as standard equipment.

5 Initial start-up

▶ Before initial start-up, read and follow the safety instructions in sections 2.7 and 2.9.

During learning runs, the operator is adjusted to the gate. The travel distance, the required force for opening and closing runs and the connected safety devices are taught in automatically and saved in a power failure-proof manner. The data is only valid for this gate.

NOTES:

- No obstacles may be located in the function range of the safety devices.
- Safety devices must be fitted and connected beforehand.
- The opening sense and closing sense are determined during the learning runs. After successful initial start-up, only a factory reset and new learning runs can change the senses.
- During the learning runs, the option relay does not cycle.
- If a lamp is connected to the option relay, the limit switch setting can be observed from a distance (lamp goes out = travel limit is reached).
- While the travel is being taught in, the operator moves in slow travel.
- There is no timeout during initial start-up.

5.1 Selecting the operator type and gate version

The operator type is preset in the delivery condition. The current operator type must only be selected after a factory reset.

⚠ CAUTION

Danger of injury due to incorrectly selected operator type

If an incorrect operator type is selected, unspecific values are set as default. Gate system malfunctions may cause injuries.

▶ Only choose the menus that correspond to the gate system you have.

Menu	Operator type	
01.	DA22	
02	DA42 / DA42-L	
03	DA200SA	
04	DA300SA	

Menu	Gate version	
06.	Double-leaf gate system	
07	Single-leaf gate system	
08.	Partial opening, leaf A (motor **1**)	
09	Partial opening, leaf B (motor **2**)	

5.2 Teaching in the operator

1. Connect the power supply.
On the display
– **8.8.** is illuminated for 1 second,
– **U** is then illuminated continuously.

2. Press the **Open** button and select
– **01** for DA22
– **02** for DA42 / DA42-L.

3. Press and hold the **P** button
– **01.** or **02.** appears briefly,
– **06.** is illuminated.

Double-leaf gate system:

4. Press and hold the **P** button
– **08.** is illuminated.

Single-leaf gate system:

4.1 Press the **Open** button.
– **07** is illuminated.

4.2 Press and hold the **P** button
– **LA** is illuminated for 1 second (**teach-in** leaf **A**),
– **L .** _ flashes.

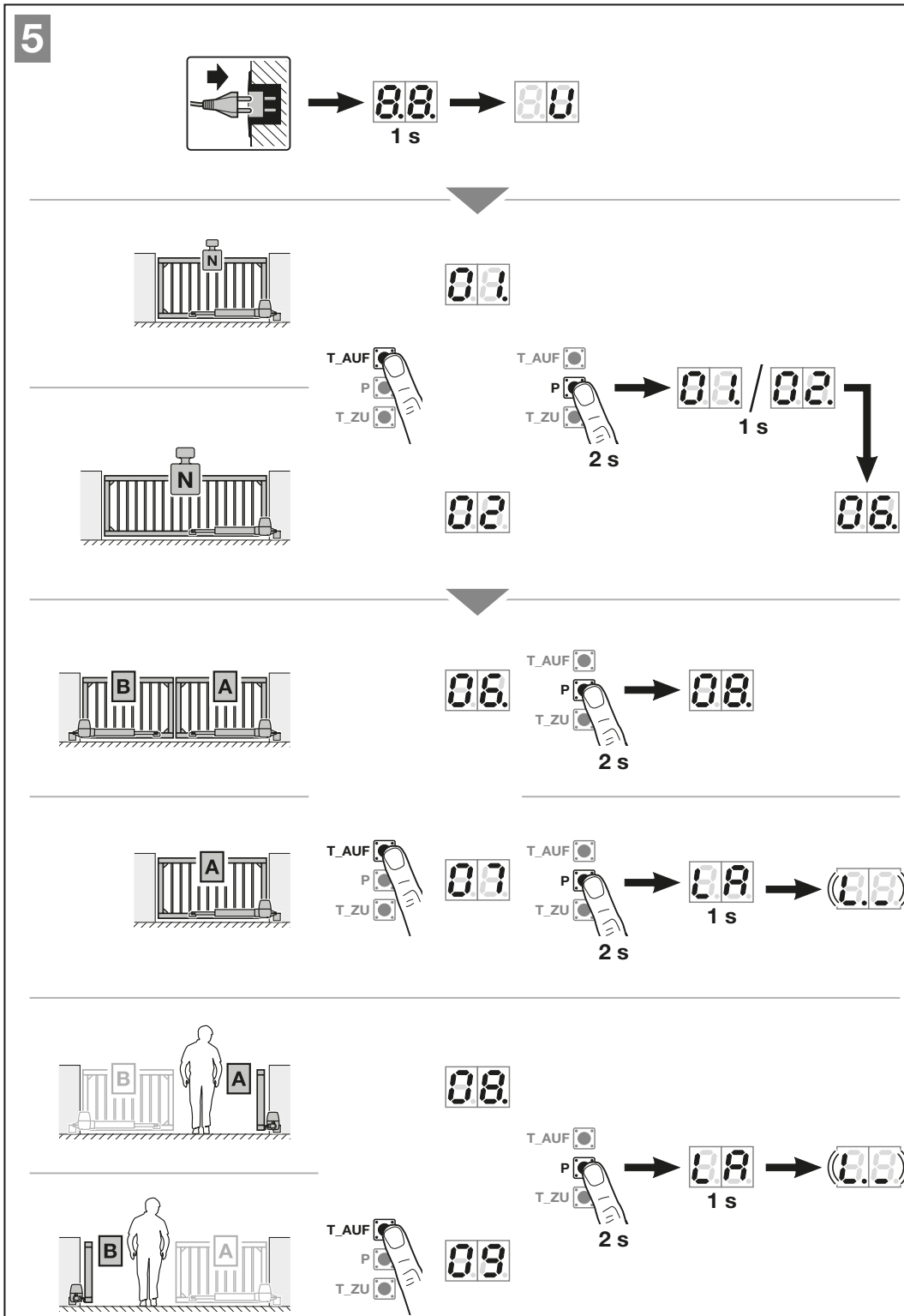
Traffic leaf as leaf A:

5. Press and hold the **P** button
– **LA** is illuminated for 1 second (**teach-in** leaf **A**),
– **L .** _ flashes.

Traffic leaf as leaf B:

5.1 Press the **Open** button.
– **09** is illuminated.

5.2 Press and hold the **P** button
– **LA** is illuminated for 1 second (**teach-in** leaf **A**),
– **L .** _ flashes.


5
1 s
N
T_AUF
P
T_ZU
2 s
1 s
N
B
A
T_AUF
P
T_ZU
2 s
A
T_AUF
P
T_ZU
1 s
2 s
B
A
T_AUF
P
T_ZU
1 s
2 s
B
A
T_AUF
P
T_ZU

5.3 Double-leaf gate system

▶ See **Figures 9a – 9.4a**

5.3.1 Teaching in the end-of-travel positions for leaf A

Leaf **B** must be closed.

1. Unlock the operator.
2. Open the leaf approx. 1 m.
3. Lock the operator.
4. Press and hold the **Close** button.
   – The leaf moves in the *Close* direction.
   – **L.** _ is illuminated.

If the leaf moves in the *Open* direction, reverse the rotational direction:

▶ Briefly release the **Close** button.
▶ Press and hold the **Close** button again.

5. Release the **Close** button when the leaf
   a. stops due to the limit switch.
   – The decimal point goes out.
   Or
   b. stops due to the on-site end stop.
   – **EL** is illuminated for 2 seconds,
   – **L** ¯ flashes with limit switch,
   – **L.** ¯ flashes with end stop.

The Close end-of-travel position has been taught in.

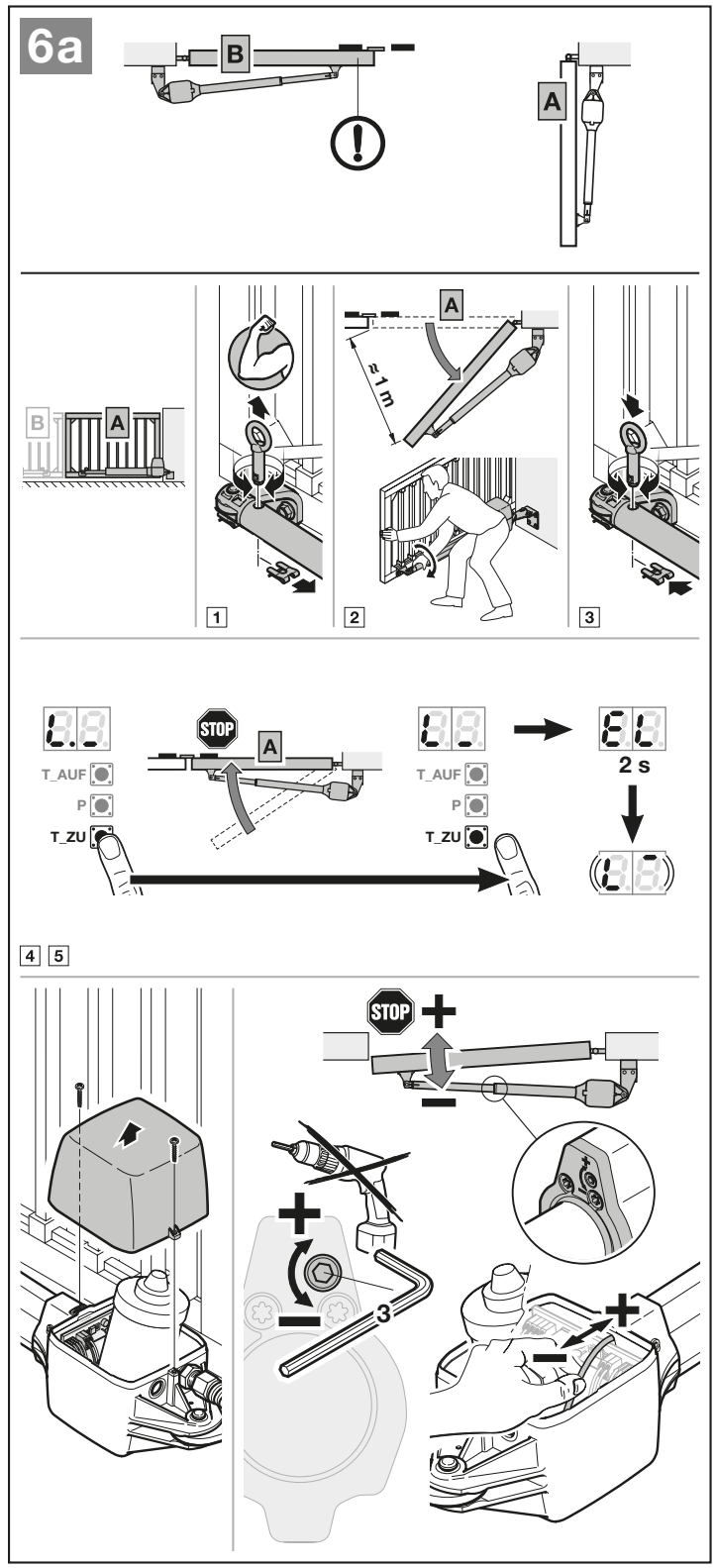
If the position taught in by the limit switch is not the desired end position:

a. Change the position by turning the adjusting screw.

1 revolution = 1 mm spindle stroke.
Turn the adjusting screw in the **+** direction = end-of-travel position in the Close direction.
Turn the adjusting screw in the **-** direction = end-of-travel position in the Open direction.

b. Carefully also move the connecting lead in the required direction.
c. Press and briefly hold the **Open** button.
d. Press and hold the **Close** button until the leaf is stopped by the limit switch.

If required, repeat steps **a – d**.



6. Press and hold the **Open** button.
   – The leaf moves in the *Open* direction.
   – **L.¯** is illuminated.
7. Release the **Open** button when the desired position for the Open end-of-travel position has been reached. Minimum travel movement 45°. Fine adjustment can be performed with the **Open** / **Close** buttons.
8. Press the **P** button to save this position.
   – **EL** is illuminated for 2 seconds,
   – **Lb** is illuminated for 1 second (**teach-in** leaf **B**),
   – **L_** flashes with limit switch,
   – **L.**_ flashes with end stop.

If the selected position is less than 45°, the error **8** appears with a flashing decimal point. The smallest possible position is automatically set.

5.3.2 Teaching in the end-of-travel positions for leaf B

Leaf **A** must be open.

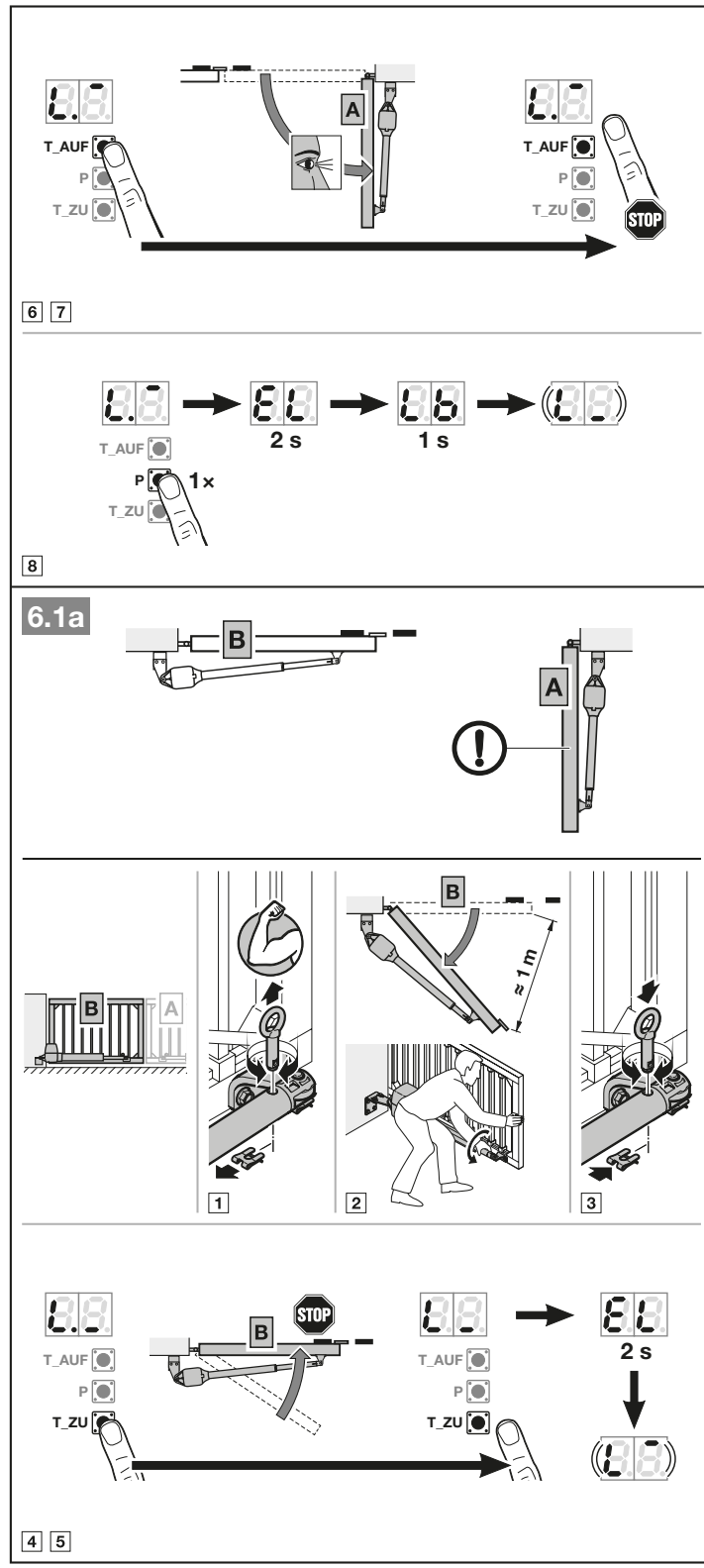
1. Unlock the operator.
2. Open the leaf approx. 1 m.
3. Lock the operator.
4. Press and hold the **Close** button.
   – The leaf moves in the *Close* direction.
   – **L.**_ is illuminated.

If the leaf moves in the *Open* direction, reverse the rotational direction:

- ▶ Briefly release the **Close** button.
- ▶ Press and hold the **Close** button again.

5. Release the **Close** button when the leaf
   a. stops due to the limit switch.
   – The decimal point goes out.
   Or
   b. stops due to the on-site end stop.
   – **EL** is illuminated for 2 seconds,
   – **L¯** flashes with limit switch,
   – **L.¯** flashes with end stop.

The Close end-of-travel position has been taught in.



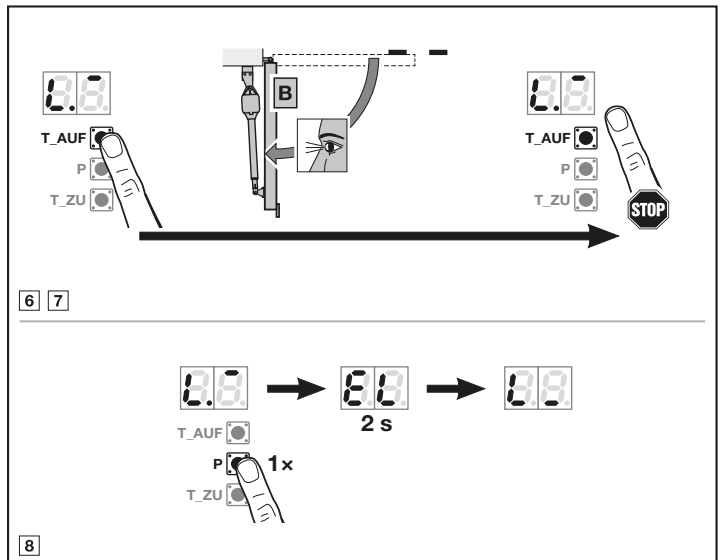
If the position taught in by the limit switch is not the desired end position:

▶ Proceed as with leaf **A.**

6. Press and hold the **Open** button.
  – The leaf moves in the *Open* direction.
  – **L .** ¯ is illuminated.

7. Release the **Open** button when the desired position for the Open end-of-travel position has been reached. Fine adjustment can be performed with the **Open** / **Close** buttons.

8. Press the **P** button to save this position.
  – **EL** is illuminated for 2 seconds,
  – **L _** is illuminated.



5.3.3 Teaching in forces

During force learning runs, no safety devices may be tripped. The force learning runs are performed with a very long leaf offset.

Force learning runs:

1. Press the **Close** button.
  – Leaf **B** moves in the *Close* direction. Leaf **A** follows.
  – Both leaves move to the Close end-of-travel position. **L _** is illuminated.

2. Press the **Open** button.
  – Leaf **A** moves in the *Open* direction. Leaf **B** follows.
  – Both leaves move to the Open end-of-travel position. **L** ¯ is illuminated.
  – As soon as the two leaves arrive, **00** is illuminated.

To exit programming mode:

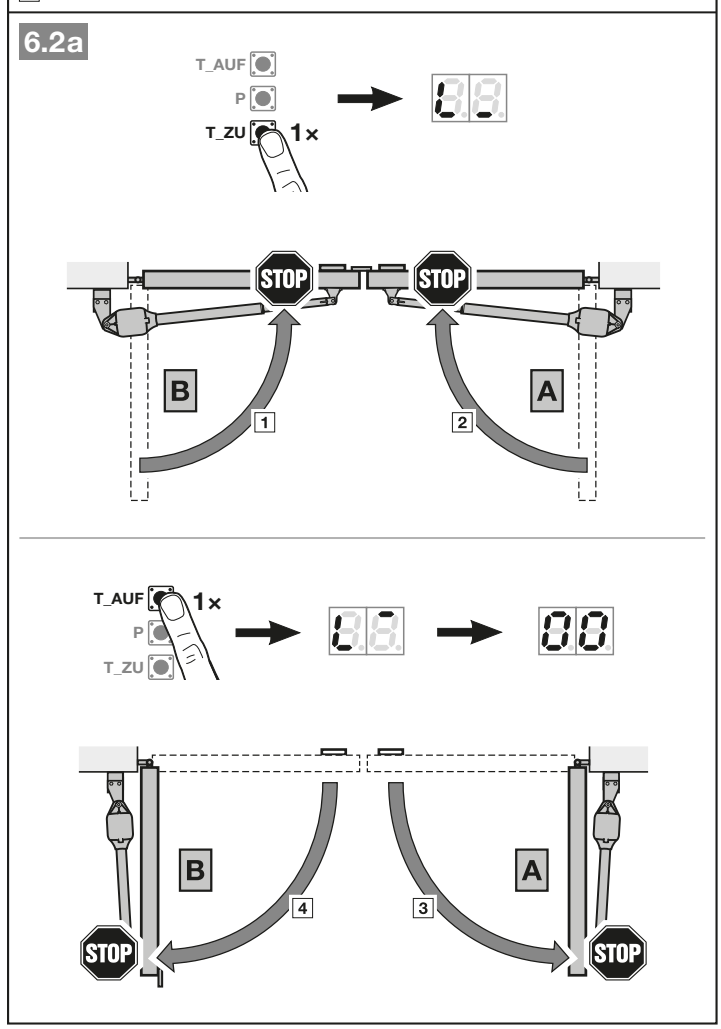
Press the **P** button.

Or

▶ No input for 60 seconds (timeout).

All inputs are saved. The operator switches to operation mode. The taught-in safety devices are active and activated in the menus.

The operator is ready for operation.



Cancelling force learning runs:

An impulse stops the force learning runs, e.g.

- Through external control elements on terminals 20 / 21 / 23,
- Through command inputs from the additional print UAP 1,
- Through an external radio receiver,
- By pressing the **Open** / **Close** buttons.

On the display, a **U** is then illuminated.

If interrupted, the force learning runs have to be restarted. The settings in menus **01** – **09** are maintained.

5.4 Single-leaf gate system

▶ See **Figures 9b – 9.2b**

5.4.1 Teaching in the end-of-travel positions

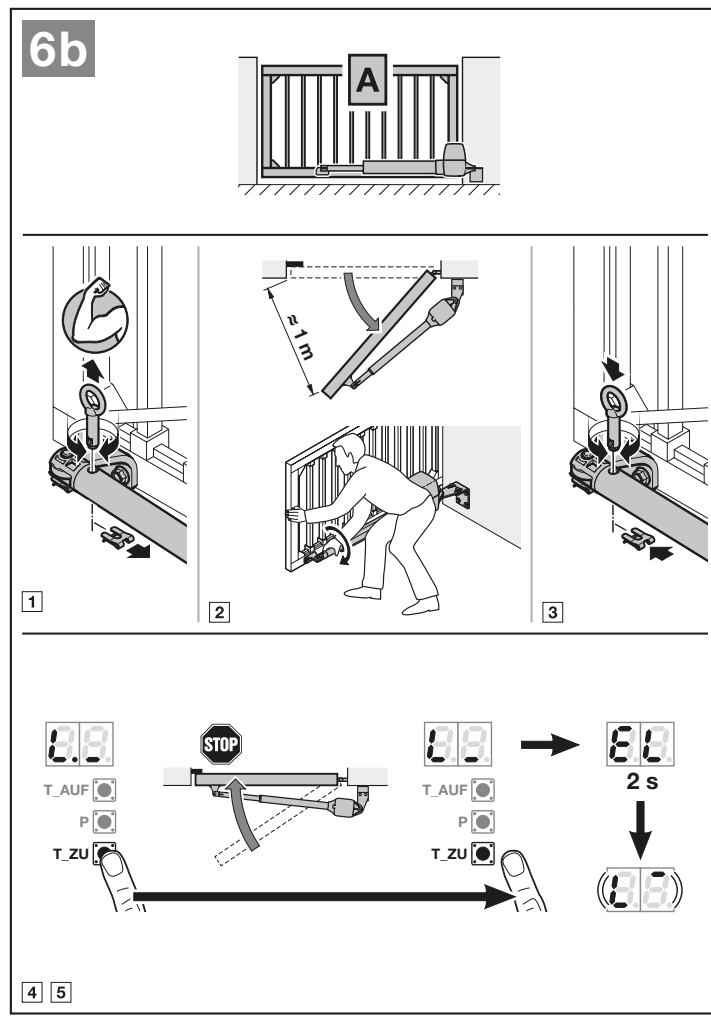
1. Unlock the operator.
2. Open the leaf approx. 1 m.
3. Lock the operator.
4. Press and hold the **Close** button.
   – The leaf moves in the *Close* direction.
   – **L.** _ is illuminated.

If the leaf moves in the *Open* direction, reverse the rotational direction:

▶ Briefly release the **Close** button.
▶ Press and hold the **Close** button again.

5. Release the **Close** button when the leaf
   a. stops due to the limit switch.
   – The decimal point goes out.
   Or
   b. stops due to the on-site end stop.
   – **EL** is illuminated for 2 seconds,
   – **L**¯ flashes with limit switch,
   – **L.**¯ flashes with end stop.

The Close end-of-travel position has been taught in.



If the position taught in by the limit switch is not the desired end position:

a. Change the position by turning the adjusting screw.

1 revolution = 1 mm spindle stroke.
Turn the adjusting screw in the **+** direction = end-of-travel position in the Close direction.
Turn the adjusting screw in the **-** direction = end-of-travel position in the Open direction.

b. Carefully also move the connecting lead in the required direction.

c. Press and briefly hold the **Open** button.

d. Press and hold the **Close** button until the leaf is stopped by the limit switch.

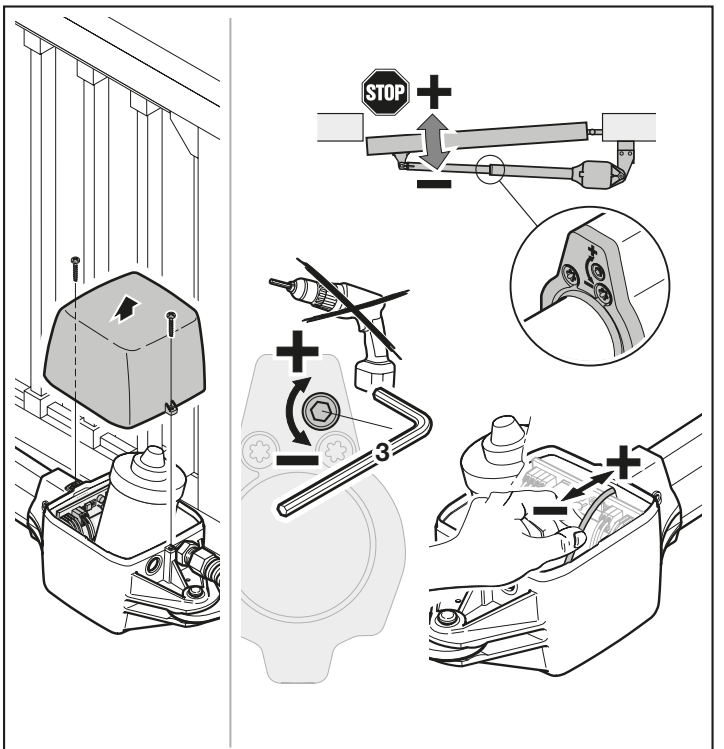
If required, repeat steps **a – d**.

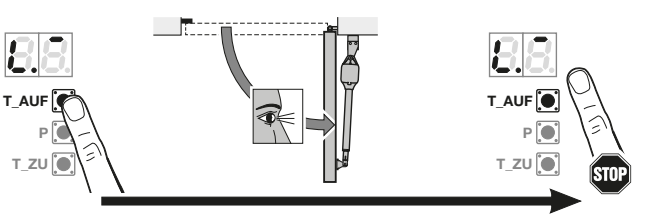
6. Press and hold the **Open** button.
- The leaf moves in the *Open* direction.
- **L .** ¯ is illuminated.

7. Release the **Open** button when the desired position for the Open end-of-travel position has been reached. Minimum travel movement 45°. Fine adjustment can be performed with the **Open** / **Close** buttons.

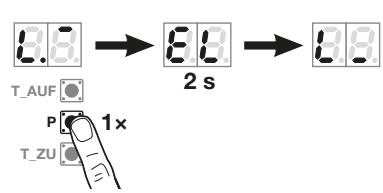
8. Press the **P** button to save this position.
- **EL** is illuminated for 2 seconds,
- **L _** is illuminated.

If the selected position is less than 45°, the error **8** appears with a flashing decimal point. The smallest possible position is automatically set.





6 7



8

5.4.2 Teaching in forces

During force learning runs, no safety devices may be tripped. The force learning runs are performed with a large leaf offset.

Force learning runs:

1. Press the **Close** button.
   – The leaf moves to the Close end-of-travel position. **L_** is illuminated.
2. Press the **Open** button.
   – The leaf moves to the Open end-of-travel position. **L¯** is illuminated.
   – Once the leaf arrives, **00** is illuminated.

To exit programming mode:

Press the **P** button.

Or

▶ No input for 60 seconds (timeout).

All inputs are saved. The operator switches to operation mode. The taught-in safety devices are active and activated in the menus.

The operator is ready for operation.

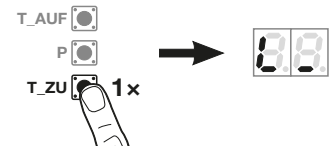
Cancelling force learning runs:

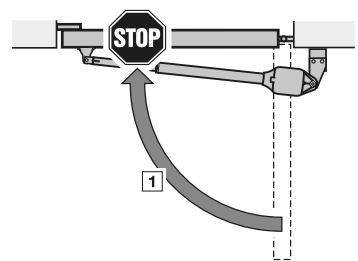
An impulse stops the force learning runs, e.g.

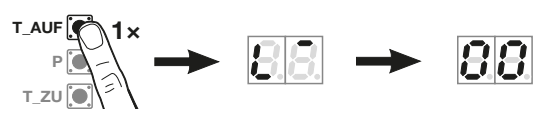
- Through external control elements on terminals 20 / 21 / 23,
- Through command inputs from the additional print UAP 1,
- Through an external radio receiver,
- By pressing the **Open** / **Close** buttons.
  U is then illuminated.

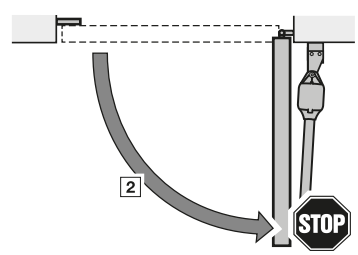
If interrupted, the force learning runs have to be restarted. The settings in menus **01** – **09** are maintained.

6.1b









6 Menus

NOTES:

- Menu **00** is the 1st visible menu in programming mode
- Menu **00** is also used to exit the programming mode.
- Menus **01** – **09** are only accessible during initial start-up.
- After initial start-up, only the available menus **10** – **38** are visible.
- A decimal point next to the menu number indicates an active menu.

To switch to programming mode:

▶ Press the **P** button until the **00** display is illuminated.

To select a menu:

▶ Use the **Open** / **Close** buttons to select the desired menu. Press and hold the **Open** / **Close** buttons for fast run-through.

To activate the menu with individual functions:

▶ Press the **P** button for 2 seconds.
The decimal point next to the menu number is illuminated.
The menu is active immediately.

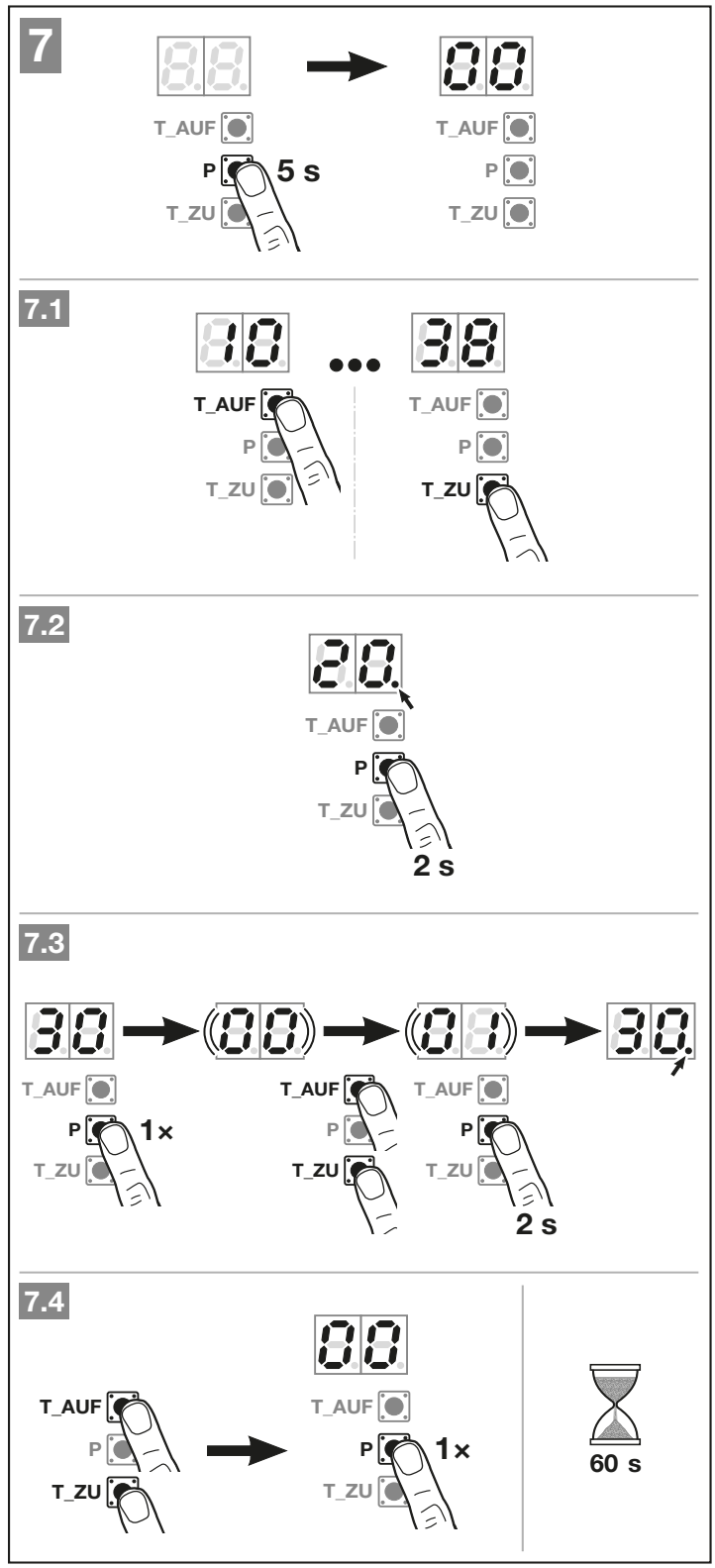
To activate a menu with selectable parameters:

1. Press the **P** button.
   The active parameter flashes.
2. With the **Open** / **Close** buttons, select the desired parameter.
3. Press the **P** button for 2 seconds.
4. The parameter is immediately active.
   The menu number illuminates with decimal point.

To exit programming mode:

1. Use the **Open** / **Close** buttons to select menu **00**.
2. Press the **P** button.
   Or

▶ No input for 60 seconds (timeout).
All inputs are saved. The operator switches to operation mode.



6.1 Menu description

A table containing all of the menus can be found in section 18 from page 53.

6.1.1 Advanced menus

In addition to menus **01 – 36** described here, additional settings can be made, such as:

- Speed adjustment
- Power limit adjustment
- Change to the reversal limit
- Effective direction and reversing behaviour of the safety devices

Settings that change the factory setting may only be made by specialists. If necessary, contact your specialist dealer.

NOTE:

Changes may only be made in compliance with the points named in section **2.9.1 Safety instructions for complying with the operating force**.

6.1.2 Menu 01 – 09: operator types and gate version

You only need menus **01** – **09** to commission the operator. These menus are only available during initial start-up or after a factory reset.

If you select the operator type, all gate-specific values are automatically set by default, such as:

- Speeds,
- Soft stop,
- Reversing behaviour of the safety devices,
- Reversal limits,
- etc.

An overview of the operator types can be found in section 5.1.

6.1.3 Menu 10: learning runs

▶ Please note the information from section 5.

Learning runs are necessary:

- If the end-of-travel positions have been adjusted,
- After service or maintenance work,
- If safety devices, e.g. photocells or resistance contact strip 8k2, have been retrofitted,
- If changes have been made to the gate.

NOTE:

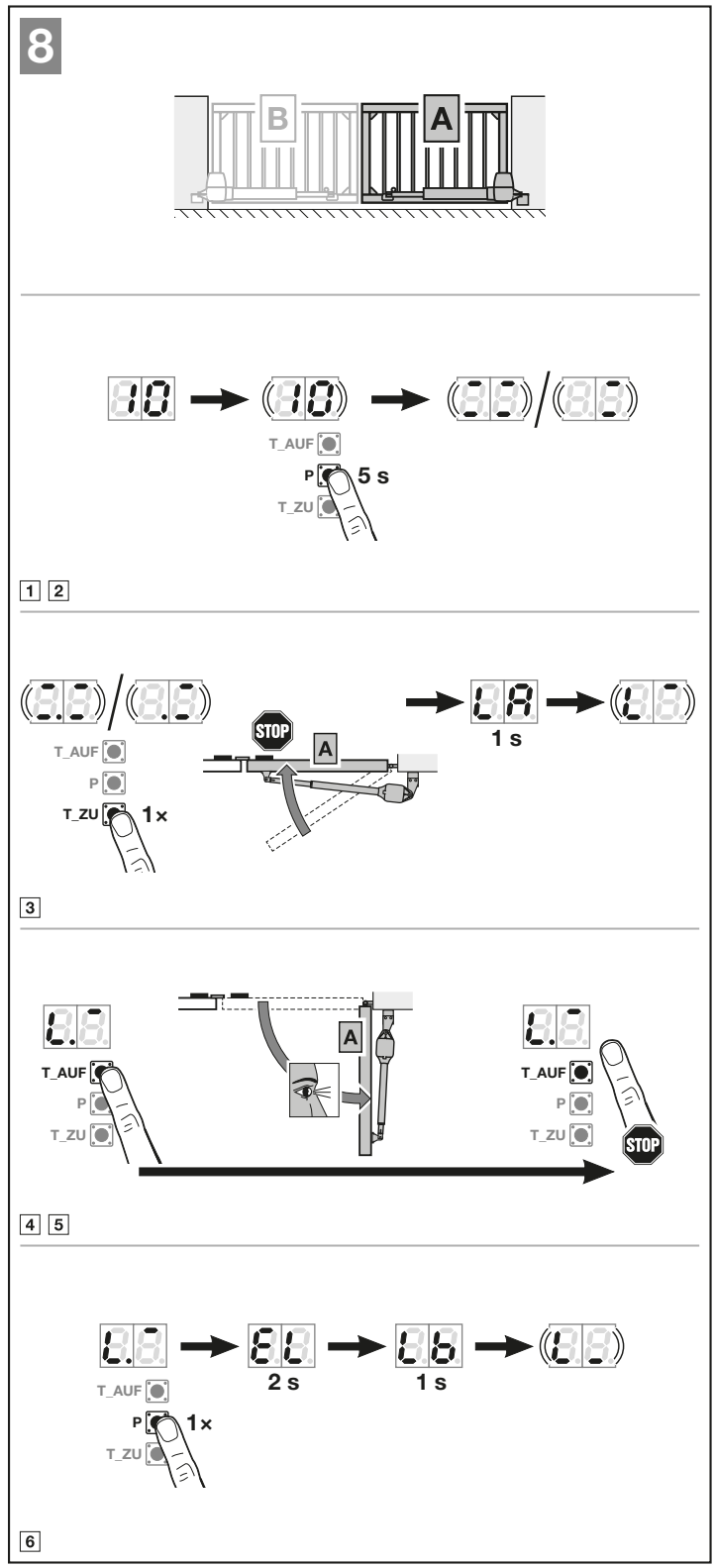
Once menu **10** is activated:

- Available gate data (travel and forces) are deleted.
- The menu can no longer be exited early. Travel and forces have to be taught in again!
- There is no timeout.

To start learning runs:

1. Select menu **10**.
2. Press the **P** button for 5 seconds.
   – **10** flashes,
   – Next, 00 or 80 flashes**.**
3. Press the **Close** button. The leaf moves to the *Close* end-of-travel position.
   – 0.0 or 8.0 flashes.
   Once the end-of-travel position has been reached:
   – The decimal point goes out.
   – **LA** is illuminated for 1 second,
   – **L** ¯ flashes with limit switch,
   – **L.** ¯ flashes with end stop.
4. Press and hold the **Open** button. The leaf moves in the *Open* direction.
   – **L.** ¯ is illuminated.
5. Release the **Open** button when the desired position for the Open end-of-travel position has been reached. Minimum travel approx. 45°. Fine adjustment can be performed with the **Open** / **Close** buttons.
6. Press the **P** button to save this position.
   a. If leaf **B** is available:
   – **EL** is illuminated for 2 seconds, **Lb** is illuminated for 1 second (**teach-in** leaf **B**),
   – **L** _ flashes with limit switch,
   – **L.** _ flashes with end stop.
   a. If leaf **B** is not available:
   – **EL** is illuminated for 2 seconds,
   – **L** _ is illuminated.

If the selected position is less than 45°, the error **8** appears with a flashing decimal point. The smallest possible position is automatically set.



Leaf B if applicable:

1. Perform steps **4** + **5** as for leaf **A**.
2. Press the **P** button.
   - **EL** is illuminated for 2 seconds,
   - **L _** is illuminated.

Teaching in the forces (double-leaf)

1. Press the **Close** button.
   - Leaf **B** moves in the *Close* direction. Leaf **A** follows.
   - Both leaves move to the Close end-of-travel position. **L _** is illuminated.
2. Press the **Open** button.
   - Leaf **A** moves in the *Open* direction. Leaf **B** follows.
   - Both leaves move to the Open end-of-travel position. **L¯** is illuminated.
   - As soon as both leaves have arrived, **10.** flashes very quickly for 2 seconds.
   - **10** is then illuminated continuously.

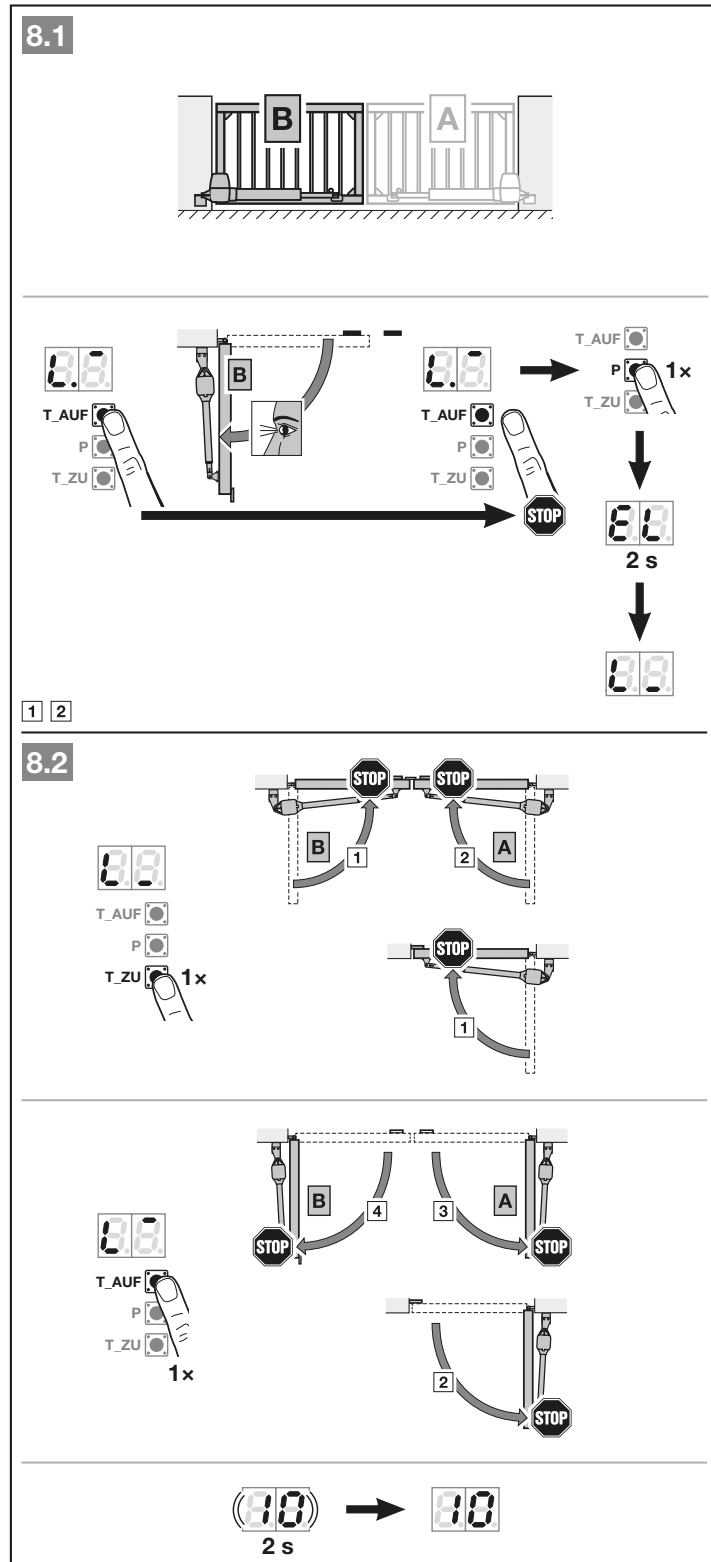
Teaching in the forces (single-leaf)

1. Press the **Close** button.
   - The leaf moves to the Close end-of-travel position. **L _** is illuminated.
2. Press the **Open** button.
   - The leaf moves to the Open end-of-travel position. **L¯** is illuminated.
   - As soon as the leaf has arrived, **10.** flashes very quickly for 2 seconds.
   - **10** is then illuminated continuously.

To exit programming mode:

▶ No input for 60 seconds (timeout).

All inputs are saved. The operator switches to operation mode.



On the menus described in the following:

▶ See also the overview from page 53.

6.1.4 Menu 20 – 24: Internal illumination / illumination period

As soon as the gate is set in motion, the internal illumination switches on. Once the gate has ended its travel, the illumination remains on corresponding to the time set (illumination period).

To set the desired function:

▶ Select the menu for the desired function as described in section 6.

20	Internal illumination deactivated	
21	Internal illumination / illumination period 30 seconds	
22	Internal illumination / illumination period 60 seconds	
23	Internal illumination / illumination period 120 seconds	
24	Internal illumination / illumination period 180 seconds	

If menu **20** is activated, gate motion does not activate illumination. Menu **31 –** parameter **07** is also automatically activated.

If menu **21 – 24** is activated, menu **31 –** parameter **00 –** is also automatically activated.

Timeout

If you do not press the **P** button to save within 60 seconds, the pre-set menu is maintained.

6.1.5 Menu 25 – 28: Illumination / illumination period (external relay)

An external control element (e.g. hand transmitter or button) switches the illumination on, which remains on corresponding to the time set (illumination period).

To set the desired function:

▶ Select the menu for the desired function as described in section 6.

25	External illumination deactivated	
26	External illumination / illumination period 5 minutes	
27	External illumination / illumination period 10 minutes	
28	External illumination / illumination period, HOR 1 function or UAP 1 relay 3 ON / OFF	

If menu **25** is activated, an external control element does not activate illumination.

If menu **28** is activated, the illumination can be switched on or off permanently via the additional prints HOR 1 or UAP 1 relay 3. Menu **28** is not possible in combination with menu **25**.

Timeout

If you do not press the **P** button to save within 60 seconds, the pre-set menu is maintained.

6.1.6 Menu 30: External relay functions

Option relay HOR 1 is required to connect an external lamp or warning light.

Further functions, such as Open and Close limit switch reporting, choosing direction or illumination, can be switched with the universal adapter print UAP 1 relay 3.

To set the desired function:

▶ Select the menu and the parameter for the desired function as described in section 6.

30	**External relay functions HCP, HOR 1, UAP 1 relay 3**		
	00	External illumination function	
	01	Open end-of-travel position signal	
	02	Close end-of-travel position signal	
	03	Partial opening end-of-travel position signal	
	04	Momentary signal at the time of Open or Partial opening command	
	05	Error message on the display (malfunction)	
	06	Start warning / advance warning [1] permanent signal	
	07	Start warning / advance warning [1] flashing	
	08	Relay energises during travel and de-energises in the end-of-travel positions.	
	09	Maintenance interval signal (display **In**)	
	10	Start warning / advance warning [1] flashing, only in Close direction	

1) Advance warning only if activated in menu 32.

If in menu **30**

- parameter **00** is activated, menu **26** is also automatically activated.
- parameter **01-10** is activated, menu **25** is also automatically activated.

Timeout

If you do not press the **P** button to save the desired parameter within 60 seconds, the default parameter is maintained.

6.1.7 Menu 31: Internal relay functions

Required e.g. to connect an external lamp or warning light.

To set the desired function:

▶ Select the menu and the parameter for the desired function as described in section 6.

31	Internal relay functions		
	00	Internal illumination function	
	01	Open end-of-travel position signal	
	02	Close end-of-travel position signal	
	03	Partial opening end-of-travel position signal	
	04	Momentary signal at the time of Open command	
	05	Error message on the display (malfunction)	
	06	Start warning / advance warning [1] permanent signal	
	07	Start warning / advance warning [1] flashing	☆
	08	Relay energises during travel and de-energises in the end-of-travel positions.	
	09	Maintenance interval signal (display **In**)	
	10	Start warning / advance warning [1] flashing, only in Close direction	

1) Advance warning only if activated in menu 32.

If in menu **31**

- parameter **00** is activated, menu **22** is also automatically activated.
- parameter **01 – 10** is activated, menu **20** is also automatically activated.

Timeout

If you do not press the **P** button to save the desired parameter within 60 seconds, the default parameter is maintained.

6.1.8 Menu 32: Pre-warning phase

If a travel command is output, a warning light connected to the option relay flashes before gate travel begins. The pre-warning phase is active in the directions *Open* and *Close*.

To set the desired function:

▶ Select the menu and the parameter for the desired function as described in section 6.

32	Pre-warning phase		
	00	deactivated. If a travel command is output, gate travel is started immediately.	☆
	01	1 second	
	02	2 seconds	
	03	3 seconds	
	04	4 seconds	
	05	5 seconds	
	06	10 seconds	
	07	15 seconds	
	08	20 seconds	
	09	30 seconds	
	10	60 seconds	

Timeout

If you do not press the **P** button to save the desired parameter within 60 seconds, the default parameter is maintained.

6.1.9 Menu 34: Automatic timer

With the automatic timer, the gate opens upon a travel command. Once the set hold-open phase and pre-warning phase have elapsed, the gate closes automatically. If the gate receives a travel command while it is closing, the gate stops.

NOTES:

- The automatic timer may/can only be activated within the scope of EN 12453 if at least one **additional** safety device (photocell) is connected besides the standard power limit.
- An **additional** safety device (photocell) must be taught in first.
- If the automatic timer is set (menus **34** – **35**), the pre-warning phase is also automatically activated (menu **32 –** parameter **02**).

To set the desired function:

▶ Select the menu and the parameter for the desired function as described in section 6.

34	Automatic timer		
	00	Deactivated	
	01	Hold-open phase of 5 seconds	
	02	Hold-open phase of 10 seconds	
	03	Hold-open phase of 20 seconds	
	04	Hold-open phase of 30 seconds	
	05	Hold-open phase of 60 seconds	
	06	Hold-open phase of 90 seconds	
	07	Hold-open phase of 120 seconds	
	08	Hold-open phase of 180 seconds	
	09	Hold-open phase of 240 seconds	
	10	Hold-open phase of 300 seconds	

Timeout

If you do not press the **P** button to save the desired parameter within 60 seconds, the default parameter is maintained.

6.1.10 Menu 35: Automatic timer from the partial opening position

NOTES:

- The automatic timer may/can only be activated within the scope of EN 12453 if at least one **additional** safety device (photocell) is connected besides the standard power limit.
- An **additional** safety device (photocell) must be taught in first.
- If the automatic timer is set (menus **34** – **35**), the pre-warning phase is also automatically activated (menu **32 –** parameter **02**).

To set the desired function:

▶ Select the menu and the parameter for the desired function as described in section 6.

35	Automatic timer – partial opening		
	00	Deactivated	
	01	Hold-open phase as set in menu **34**	
	02	Hold-open phase of 5 minutes	
	03	Hold-open phase of 15 minutes	
	04	Hold-open phase of 30 minutes	
	05	Hold-open phase of 45 minutes	
	06	Hold-open phase of 60 minutes	
	07	Hold-open phase of 90 minutes	
	08	Hold-open phase of 120 minutes	
	09	Hold-open phase of 180 minutes	
	10	Hold-open phase of 240 minutes	

Timeout

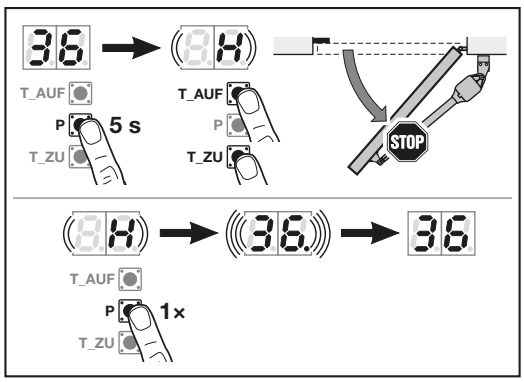
If you do not press the **P** button to save the desired parameter within 60 seconds, the default parameter is maintained.

6.1.11 Menu 36: Change partial opening position

The partial opening position can be triggered via an external receiver, the additional print UAP 1 or an impulse at terminals 20 / 23.

Partial opening position

Double-leaf gate system	Single-leaf gate system
Is pre-set to the complete opening width of leaf **A** at the factory.	Is pre-set to half of the taught-in travel at the factory.



To change the partial opening position:

1. Select menu **36**.
2. Press the **P** button for 5 seconds and activate the menu.
3. Move the gate to the desired position with the **Open** or **Close** buttons.
   During travel the following flashes:
   – 88 for double-leaf gate systems
   – 8H for single-leaf gate systems
4. Press the **P** button to save this position.
   – **36** flashes quickly; the decimal point is illuminated.
   – **36** is illuminated.

The changed partial opening position is saved.

If the selected position is too close to the Close end-of-travel position, the error **1** appears with a flashing decimal point (see section 17). The smallest possible position is automatically set.

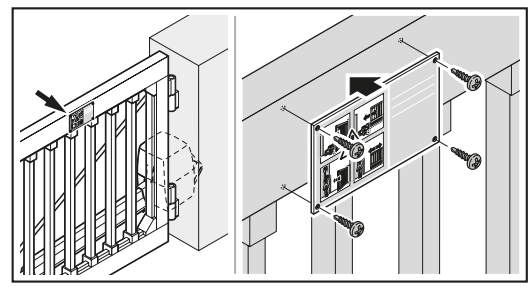
7 Final work

Upon completion of all required steps for initial start-up:

▶ Reinstall the housing covers of the operator control and the operators.

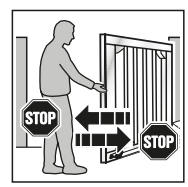
7.1 Fixing the warning sign

▶ Permanently fix the supplied warning sign at a clearly visible location on the gate.



7.2 Function test

To check the safety reversal:



1. Stop the gate with both hands while it is **closing**.
   The gate system must stop and initiate the safety reversal.
2. Stop the gate with both hands while it is **opening**.
   The gate system must stop and initiate the safety reversal.

▶ In the event of a failure of the safety reversal, a specialist must be commissioned immediately for the inspection and repair work.

⚠ WARNING

Danger of injuries due to faulty safety equipment

If safety devices do not function properly, malfunctions may cause injuries.

▶ After the learning runs, the person commissioning the system must check the function(s) of the safety equipment.

The system is ready for operation only after this.

8 Radio

⚠ CAUTION

Danger of injuries due to unintended gate travel

Unintended gate travel may occur while teaching in the radio code.

- ▶ Make sure no persons or objects are in the gate's area of travel when teaching in the radio system.

If you want to start operating, enhance or change the radio system:

- Only possible if the operator is at rest.
- Perform a function check.
- Use original parts only.
- Local conditions may affect the range of the radio system.
- When used at the same time, GSM-900 mobile phones can affect the range.

9 Hand transmitter BDS140

⚠ WARNING

Danger of injury during gate travel

Persons may be injured by gate travel if the hand transmitter is actuated.

- ▶ Make sure that hand transmitters are kept away from children and can only be used by people who have been instructed on how the remote-control gate functions!
- ▶ If the gate has only one safety feature, only operate the hand transmitter if you are within sight of the gate!
- ▶ Only drive or pass through remote-control gate systems when the gate is at a standstill!
- ▶ Never stand in the opening of the gate system.
- ▶ Please note that unwanted gate travel may occur if a hand transmitter button is accidentally pressed (e.g. if stored in a pocket/handbag).

⚠ CAUTION

Danger of burns from the hand transmitter

Direct sunlight or great heat can heat up the hand transmitter. As a result, burns could occur during use.

- ▶ Protect the hand transmitter from direct sunlight and great heat (e.g. by placing it in a stowage compartment in the dashboard).

ATTENTION

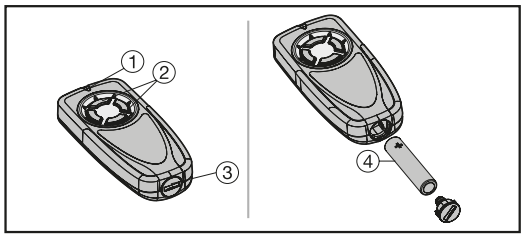
Functional impairment caused by environmental conditions

High temperatures, water and dirt impair the function of the hand transmitter.

Protect the hand transmitter from the following conditions:

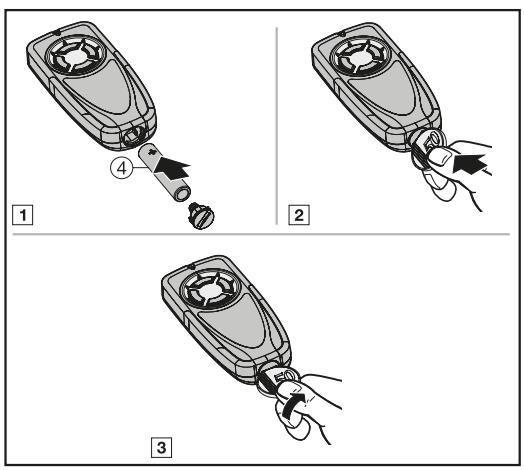
- Direct sunlight (permissible ambient temperature: –20°C to +60°C)
- Moisture
- Dust

9.1 Description of the hand transmitter BDS140



1. LED
2. Hand transmitter buttons
3. Battery compartment cover
4. Battery

9.2 Inserting / changing the battery



▶ Use only the battery type AAA (LR03) 1,5 V.

ATTENTION

Destruction of the hand transmitter by leaking batteries

Batteries can leak and destroy the hand transmitter.

▶ Remove the battery from the hand transmitter if it is out of use for a long period of time.

9.3 Excerpt from the declaration of conformity for the hand transmitter

Conformity of the abovementioned product with the requirements of the Radio Equipment Directive (RED) 2014/53/EU was verified by compliance with the following standards:

- EN 300 220-1
- EN 300 220-3
- EN 301 489-1
- EN 301 489-3

The original declaration of conformity can be requested from the manufacturer.

10 Radio Remote Control

10.1 External radio receiver BDE221 / BDE321

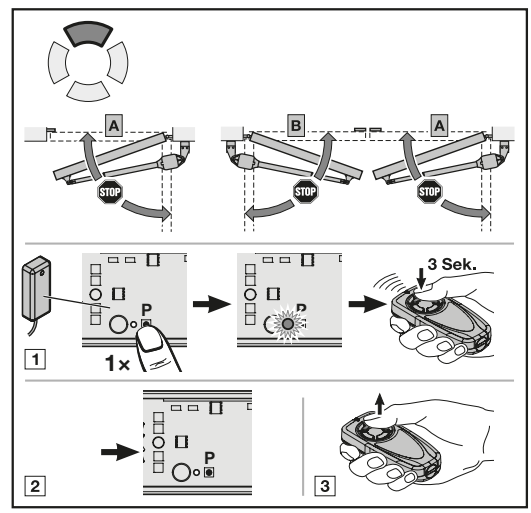
Plug-in the external radio receiver on the respective connector (see Figure 4.1). The function “impulse” (Open – Stop – Close – Stop) and the function “partial opening” for at max. 60 different hand transmitters can be programmed on the external radio receiver. If more than 60 different hand transmitters are programmed the receiver deletes those that have been registred in the beginning.

NOTE:

- External radio receivers with aerial wires must not come into contact with objects made of metal (nails, struts, etc.)
- Determine the best orientation by trial and error.
- When used at the same time, GSM-900 mobile phones can affect the range.

10.2 Programming the hand transmitter buttons on an external radio receiver

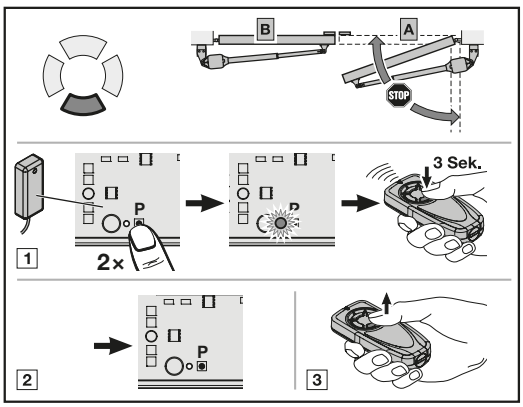
10.2.1 Assigning a button function for channel 1



1. Briefly press the **P** button (programming button) on the receiver. The LED will begin to light up.
2. Press the desired button on the hand transmitter for at least three seconds until the LED goes out.
3. Release the button.
4. The receiver is ready to receive.

The function of this hand transmitter button is now programmed on the receiver.

10.2.2 Assigning a button function for channel 2



1. Briefly press the **P** button (programming button) on the receiver. The LED will begin to light up.
2. Press the **P** button again. The LED will go out and then light up again.
3. Press the desired button on the hand transmitter for at least three seconds until the LED goes out.
4. Release the button.
5. The receiver is ready to receive.

The function of this hand transmitter button is now programmed on the receiver.

10.2.3 Deleting all data of an external radio receiver

1. Press the **P** button on the receiver for approx. 10 seconds. The LED will flash.
2. Wait until the flashing stops, and release the button. All taught-in hand transmitters are now deleted.

NOTE:

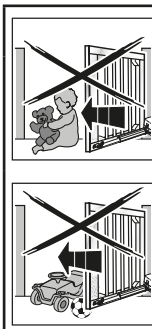
It is not possible to delete individual hand transmitters.

10.2.4 Operation

At least one hand transmitter button must be taught in on the radio receiver to operate the operator via radio.

During radio transmission, the hand transmitter and receiver must be at least 1 m apart.

11 Operation



⚠ WARNING

Danger of injury during gate travel

If people or objects are in the area around the gate while the gate is in motion, this can lead to injuries or damage.

- ▶ Children are not allowed to play near the gate system.
- ▶ Make sure that no persons or objects are in the gate's area of travel.
- ▶ If the gate system has only one safety feature, only operate the hinged gate operator if you are within sight of the gate's area of travel.
- ▶ Monitor the gate travel until the gate has reached the end-of-travel position.
- ▶ Only drive or pass through remote-control gate systems when the gate is at a standstill!
- ▶ Never stand in the opening of the gate system.

⚠ WARNING

Risk of crushing at the main closing edge and the secondary closing edges

During gate travel, fingers or extremities may be crushed between the gate and main closing edge or the secondary closing edge.

- ▶ Do not reach toward the main closing edge or secondary closing edges during gate travel.

11.1 Instructing users

- ▶ All persons using the gate system must be shown how to operate the operator properly and safely.
- ▶ Demonstrate and test the mechanical release as well as the safety reversal.

11.2 Normal operation

11.2.1 Channel 1/Impulse

In normal operation, the hinged gate operator works with the impulse sequence control. Pressing the corresponding hand transmitter button or an external button triggers the impulse:

1st impulse: The gate runs towards an end-of-travel position.
2nd impulse: The gate stops.
3rd impulse: The gate runs in the opposite direction.
4th impulse: The gate stops.
5th impulse: The gate runs in the direction of the end-of-travel position selected in the 1st impulse.
etc.

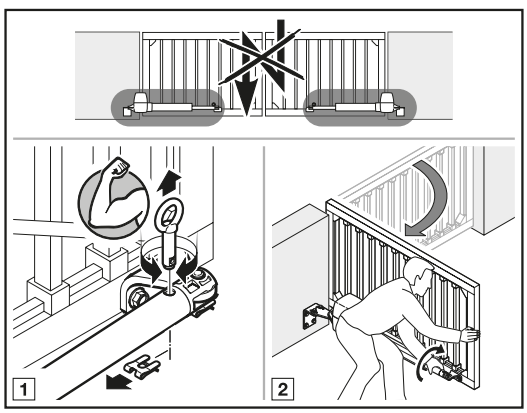
11.2.2 Channel 2 / Partial opening

If the gate is **not in the partial opening position**, the radio code *Partial opening* moves the gate to this position.

If the gate is in the **partial opening position**,

- the radio code *Partial opening* moves the gate to the Close end-of-travel position.
- the radio code *Impulse* moves the gate to the Open end-of-travel position.

11.3 Behaviour during a power failure (without an emergency battery)



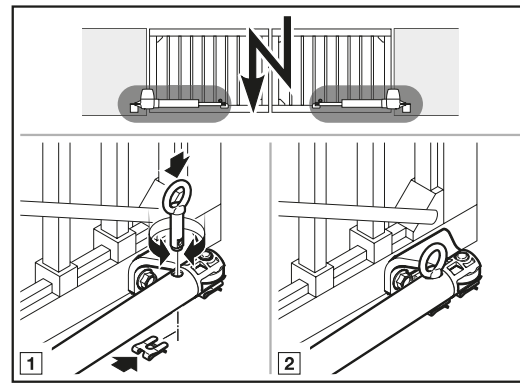
During a power failure, you have to open and close the gate system manually. For this, you have to disengage the operator.

If the gate is additionally secured by an electric lock, then release the electric lock first with the respective key.

11.4 Behaviour after the power returns (without emergency battery)

After the power returns:

- **8.8.** is illuminated for 1 second on the display.



After a power failure, the operator performs a reference run with the next impulse command.

▶ Reengage the gate.

11.5 Reference run

Double-leaf gate system

Single-leaf gate system

A reference run is required:

- If the gate position is unknown after a power failure.
- If the power limit is activated 3 × in a row during a run in the Open or Close direction.

A reference run is performed:

- Only in the Close direction.
- At a reduced speed.
- With a minor increase in force of the most recently taught-in forces.
- Without power limit

The impulse command triggers the reference run. The operator moves to the Close end-of-travel position.

If the area at risk is not secured with a photocell or a similar safety device, you may only initiate the reference run if you are in view of the gate.

12 Inspection and maintenance

The hinged gate operator is maintenance-free.

In the interest of your own safety, however, we recommend having the gate system inspected and maintained **annually** by a qualified person in accordance with the manufacturer's specifications.

⚠ WARNING

Danger of injury due to unexpected gate travel

Unexpected gate travel can result during inspection and maintenance work if the gate system is inadvertently actuated by other persons.

- ▶ Before all electrical work, de-energise the gate system **and**, if necessary, unplug the emergency battery.
- ▶ Safeguard the gate system against being switched on again without authorisation.

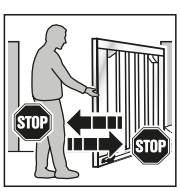
Required inspection and repairs may only be carried out by a qualified person. If necessary, contact your specialist dealer.

A visual inspection may be carried out by the operator.

- ▶ Check all safety and protective functions **monthly.**
- ▶ Check the function of the resistance contact strip 8k2 **every six months.**
- ▶ Any malfunctions and/or defects must be remedied **immediately**.

12.1 Checking safety reversal / reversing

To check safety reversal / reversing:



1. Stop the gate with both hands while it is **closing**.
   The gate system must stop and initiate the safety reversal.
2. Stop the gate with both hands while it is **opening**.
   The gate system must stop and initiate the safety reversal.

- ▶ In the event of a failure of the safety reversal, a specialist must be commissioned immediately for the inspection and repair work.

13 Warranty conditions

Warranty period

In addition to the statutory warranty provided by the dealer in the sales contract, we grant the following warranty for parts from the date of purchase:

- 2 years on operator technology, motor and motor control
- 2 years on radio equipment, accessories and special systems

Claims made under the warranty do not extend the warranty period. For replacement parts and repairs the warranty period is six months or at least the remainder of the warranty period.

Prerequisites

The warranty claim only applies in the country where the equipment was purchased. The product must have been purchased through our authorised distribution channels. A claim under this warranty exists only for damage to the object of the contract itself.

The receipt of purchase substantiates your right to claim under the warranty.

Performance

For the duration of the warranty we shall eliminate any product defects that are proven to be attributable to a material or manufacturing fault. We pledge to replace free of charge and at our discretion the defective goods with non-defective goods, to carry out repairs, or to grant a price reduction. Replaced parts become our property.

Reimbursement of expenditure for dismantling and fitting, testing of parts as well as demands for lost profits and compensation for damages are excluded from the warranty.

Damage caused by the following is also excluded:

- Improper fitting and connection
- Improper initial start-up and operation
- External factors such as fire, water, abnormal environmental conditions
- Mechanical damage caused by accidents, falls, impacts
- Negligent or intentional destruction
- Normal wear or deficient maintenance
- Repairs conducted by unqualified persons
- Use of non-original parts
- Removal or defacing of the data label

14 Excerpt from the Declaration of Incorporation

(as defined in EC Machinery Directive 2006/42/EC for incorporation of partly completed machinery according to annex II, part 1 B).

The product described on the reverse side has been developed, constructed and produced in accordance with the following directives:

- EC Machinery Directive 2006/42 EC
- EU Directive 2011/65/EU (RoHS)
- EU Low-Voltage Directive 2014/35/EU
- EU Electromagnetic Compatibility Directive 2014/30/EU

Applied and consulted standards and specifications:

- EN ISO 13849-1, PL “c”, Cat. 2 Safety of machinery – Safety-related parts of control systems – Part 1: General principles for design
- EN 60335-1/2, when applicable Safety of electrical appliances/operators for gates
- EN 61000-6-3 Electromagnetic compatibility – Interference emission
- EN 61000-6-2 Electromagnetic compatibility – Interference immunity

Partly completed machinery as defined in the EC Directive 2006/42/EC is only intended to be incorporated into or assembled with other machinery or other partly completed machinery or equipment, thereby forming machinery to which this directive applies.

This is why this product must only be put into operation after it has been determined that the entire machine / system in which it will be installed corresponds with the guidelines of the EC directive mentioned above.

Any modification made to this product without our express permission and approval shall render this declaration null and void.

15 Dismantling and disposal

NOTE:

When dismantling the gate, observe the applicable job safety rules and regulations.

Have a specialist dismantle the hinged gate operator in the reverse order of these instructions and dispose of it properly.

16 Technical data

Mains voltage	230 – 240 V~, 50 Hz
Standby	< 0.5 W
Protection category	• IP 44 operator • IP 65 control housing
Temperature range	–20°C to +60°C
Max. gate leaf width	Depending on the operator type: 2,500 mm/4,000 mm
Max. gate height	2,000 mm
Max. gate leaf weight	Depending on the operator type: 220 kg / 400 kg
Max. gate leaf infill	Depending on the gate surface. Regional wind loads must be taken into consideration when using gate infills (EN 13241-1).
Nominal torque	See data label
Max. torque	See data label
Max. idle speed	Depending on the operator type: 2.6 min^{-1} / 2.7 min^{-1}
Speed at nominal torque	Depending on the operator type: 2.5 min^{-1} / 2.6 min^{-1}
Cycles (open/close) per day/hour	See data label
Max. opening angle	125°
Operator housing	Aluminium diecast and weather-resistant, glass-fibre reinforced plastic
Control	Microprocessor control, programmable
Control voltage	24 V / 37 V DC (can be switched)
Max. cable length	30 m
Connections	Plug-in screw terminals
End-of-travel position cut-out/ force limit	Electronic
Automatic safety cut-out	• Is automatically taught in for both directions separately. • Power limit for both operational directions, self-learning and self-testing
Special functions	• Stop switch / cut-out can be connected • Photocell or closing edge safety device can be connected • Option relay for warning light, • Additional external illumination can be connected via HCP bus adapter
Hold-open phase	• Photocell required! • Adjustable from 5 to 300 seconds • Adjustable from 5 seconds to 240 minutes for partial opening • Shortened hold-open phase due to through-traffic photocell
Radio components	• Radio receiver • Hand transmitter

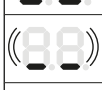
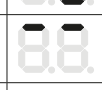
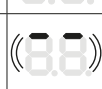
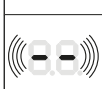
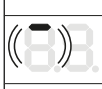
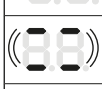
17 Displaying errors / warnings and operating modes

17.1 Display of errors and warnings

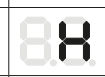
Display	Error / warning	Possible cause	Remedy
	Not possible to set the reversal limit.	When setting the reversal limit, an obstacle was in the way.	Remove the obstacle.
	Setting the partial opening position not possible	The partial opening position is too close to the Close end-of-travel position	The partial opening position must be larger
	Safety equipment on SE1	No safety devices are connected.	Connect a safety device or activate it in the menu.
		The safety device signal is interrupted.	Set / position the safety device.
			Check the connecting leads and, if necessary, replace them.
		The safety device is defective.	Replace the photocell.
	Safety equipment on SE2	No safety devices are connected.	Connect a safety device or activate it in the menu.
		The safety device signal is interrupted.	Set / position the safety device.
			Check the connecting leads and, if necessary, replace them.
		The safety device is defective.	Replace the photocell.
	Safety equipment on SE3	No safety devices are connected.	Connect a safety device or activate it in the menu.
		The safety device signal is interrupted.	Set / position the safety device.
			Check the connecting leads and, if necessary, replace them.
		The safety device is defective.	Replace the photocell.
	Power limit in the *Close* direction	The gate is too sluggish or does not move smoothly.	Correct the gate travel.
		Obstacle in gate area.	Remove the obstacle and teach in the operator again, if necessary.
	Static current circuit interrupted	The normally closed contact on terminal 12 / 13 is open.	Close the contact.
		The static current circuit is interrupted.	Check the static current circuit.
	Power limit in the *Open* direction	The gate is too sluggish or does not move smoothly.	Correct the gate travel.
		Obstacle in gate area.	Remove the obstacle and teach in the operator again, if necessary.
	System error	Internal error	Perform a factory reset and teach in the operator again, if necessary, replace it.
	Travel time limit	The operator is defective.	Exchange the operator.
	Communication error	Communication with additional print is faulty (e.g. UAP 1)	Check the connecting leads and, if necessary, replace them.
			Check the additional print and if necessary replace them.

Display	Error / warning	Possible cause	Remedy
	Control elements/ operation	Error during input	Check and change the input
		Input of invalid value	Check and change the input value
	Specific to taught-in safety devices	Self-testing safety device is interrupted.	Check the safety device and, if necessary, replace it.
		Resistance contact strip 8k2 tripped	Remove the obstacle.
		Resistance contact strip 8k2 is defective or is not connected.	Check the resistance contact strip 8k2.
	Undervoltage		In battery operation: signalling In the event of power supply undervoltage: Internal error without signalling
	Voltage error (over / undervoltage)		Charge battery, check voltage source.
	Double-leaf gate system: No reference point, gate position unknown	Power failure	Gate cycle towards the Close end-of-travel position.
		Power limit tripped 3 × in a row.	
	Single-leaf gate system: No reference point, gate position unknown	Power failure	Gate cycle towards the Close end-of-travel position.
		Power limit tripped 3 × in a row.	
	Maintenance interval signal flashes during all gate travel.	No error The maintenance interval set by the fitter has been exceeded.	Have the gate system inspected and maintained by a qualified person in accordance with the manufacturer's specifications.

17.2 Display of the operating modes for double-leaf gate systems

	Leaves A + B are in the Close end-of-travel position.		The operator has not been taught in. ▶ Teach in the operator (see section 5).
	Leaves A + B move to the Close end-of-travel position.		Leaves A + B are in the Open end-of-travel position.
	Leaves A + B are in the direction of the Close end-of-travel position and the pre-warning phase is active.		Leaves A + B are moving in the Open end-of-travel position or the automatic timer is active.
	Leaves A + B are in an intermediate position and the pre-warning phase is active.		Leaves A + B are in the direction of the Open end-of-travel position and the pre-warning phase is active.
	Leaf A travels in the direction of the partial opening position.		Leaf A is in an intermediate position.
	Communication with the operator is being established.		Leaf A is in the partial opening position.
	During initial start-up and learning run the limit switch is **not** triggered.		During initial start-up and learning runs the limit switch is triggered.

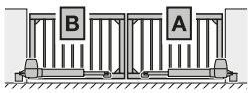
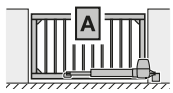
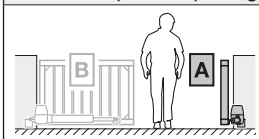
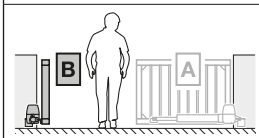
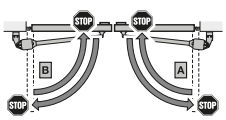
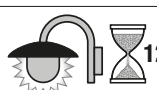
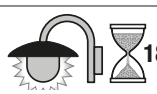
17.3 Display of the operating modes for single-leaf gate systems

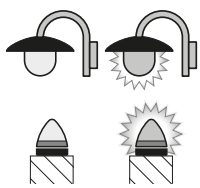
	Leaf A is in the Close end-of-travel position.		Leaf A is in the Open end-of-travel position.
	Leaf A is moving to the Close end-of-travel position.		Leaf A is moving in the Open end-of-travel position or the automatic timer is active.
	Leaf A is in the direction of the Close end-of-travel position and the pre-warning phase is active.		Leaf A is in the direction of the Open end-of-travel position and the pre-warning phase is active.
	Leaf A is in an intermediate position.		Leaf A is in an intermediate position and the pre-warning phase is active.
	Communication with the operator is being established.		Leaf A is in the partial opening position.
	Leaf A is in the partial opening position and the automatic timer is active.		Leaf A is in the partial opening position and the pre-warning phase is active.
	During initial start-up and learning run the limit switch is **not** triggered.		During initial start-up and learning runs the limit switch is triggered.
	The operator has not been taught in. ▶ Teach in the operator (see section 5).		

18 Menu and programming overview

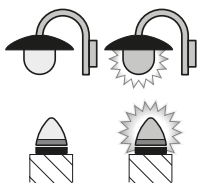
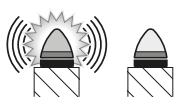
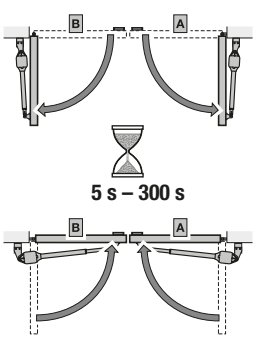
The stated factory settings apply to operator type DA22.

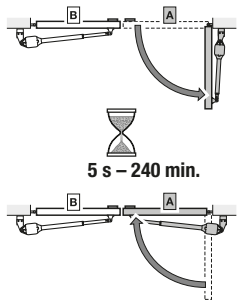
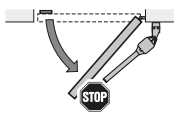
Symbol	Menu	Function / parameter	Note
			Open / exit programming mode
Select operator type			
DA22			 Default settings such as speed, soft stop, reversing behaviour of the safety devices, reversal limit etc. are pre-set)
DA42 / DA42-L			
DA200SA			
DA300SA			

Symbol	Menu	Function / parameter	Note
Select gate version			
	06.	Double-leaf gate system	
	07	Single-leaf gate system	
Select leaf partial opening			
	08.	Partial opening, motor **1** (leaf A)	
	09	Partial opening, motor **2** (leaf B)	
Learning runs			
	10	Teaching in end-of-travel positions and forces again after service / maintenance or changes	
Internal illumination / illumination period			
	20.	Internal illumination deactivated	Menu **31**, parameter **07** is automatically activated.
	21	Internal illumination / illumination period 30 seconds	Menu **31**, parameter **00** is automatically activated.
	22	Internal illumination / illumination period 60 seconds	
	23	Internal illumination / illumination period 120 seconds	
	24	Internal illumination / illumination period 180 seconds	

Symbol	Menu	Function / parameter			Note
External illumination / illumination period					
	25.	External illumination deactivated.			
	26	External illumination / illumination period 5 minutes			
	27	External illumination / illumination period 10 minutes			
	28	External illumination / illumination period, HOR 1 function or UAP 1 relay 3 ON / OFF			External light on/off
Additional functions (external relay)					(HOR 1 or UAP 1 relay 3)
	30	Parameter	**00**	External illumination function	Menu **26** is automatically activated.
			01	Open end-of-travel position signal	Menu **25** is automatically activated.
			02	Close end-of-travel position signal	
			03	Partial opening end-of-travel position signal	
			04	Momentary signal at the time of Open or Partial opening command	
			05	Error message on the display (malfunction)	
			06	Start warning / advance warning [1] permanent signal	
			07	Start warning / advance warning [1] flashing	
			08	Relay energises during travel and de-energises in the end-of-travel positions.	
			09	Maintenance interval signal (display **In**)	
			10	Start warning / advance warning [1] flashing, only in Close direction	

1) Advance warning only if activated in menu 32.

Symbol	Menu	Function / parameter			Note
Additional functions (internal relay)					
	31	Parameter	**00**	Internal illumination	Menu **22** is automatically activated.
			01	Open limit switch reporting	Menu **20** is automatically activated.
			02	Close limit switch reporting	
			03	Partial opening limit switch reporting	
			04	Momentary signal at the time of Open or Partial opening command	
			05	Error message on the display (malfunction)	
			06	Start warning / advance warning [1] permanent signal	
			07	Start warning / advance warning [1] flashing	
			08	Relay energises during travel	
			09	Maintenance interval signal (display **In**)	
			10	Start warning / advance warning [1] flashing, only in Close direction	
		1) Advance warning only if activated in menu 32.			
Pre-warning phase					
	32	Parameter	**00**	Advance warning deactivated	
			01	Advance warning 1 s	
			02	Advance warning 2 s	
			03	Advance warning 3 s	
			04	Advance warning 4 s	
			05	Advance warning 5 s	
			06	Advance warning 10 s	
			07	Advance warning 15 s	
			08	Advance warning 20 s	
			09	Advance warning 30 s	
			10	Advance warning 60 s	
Automatic timer – hold-open phase					**Photocell required**
	34	Parameter	**00**	Hold-open phase deactivated	
			01	Hold-open phase 5 s	Menu **32**, parameter **02** is automatically activated.
			02	Hold-open phase 10 s	
			03	Hold-open phase 15 s	
			04	Hold-open phase 30 s	
			05	Hold-open phase 60 s	
			06	Hold-open phase 90 s	
			07	Hold-open phase 120 s	
			08	Hold-open phase 180 s	
			09	Hold-open phase 240 s	
			10	Hold-open phase 300 s	

Symbol	Menu	Function / parameter			Note
Automatic timer – partial opening					**Photocell required**
	35	Parameter	**00**	Hold-open phase deactivated	
			01	Hold-open phase as set in menu **34**	Menu **32**, parameter **02** is automatically activated.
			02	Hold-open phase 5 min	
			03	Hold-open phase 15 min	
			04	Hold-open phase 30 min	
			05	Hold-open phase 45 min	
			06	Hold-open phase 60 min	
			07	Hold-open phase 90 min	
			08	Hold-open phase 120 min	
			09	Hold-open phase 180 min	
			10	Hold-open phase 240 min	
Change partial opening position					
	36				

PMD23110-00 / Rev. 1.0 RE / 06.2019

DA22 / DA42 / DA42-L

Berner Torantriebe KG
Graf-Bentzel-Str. 68
D-72108 Rottenburg
www.berner-torantriebe.eu