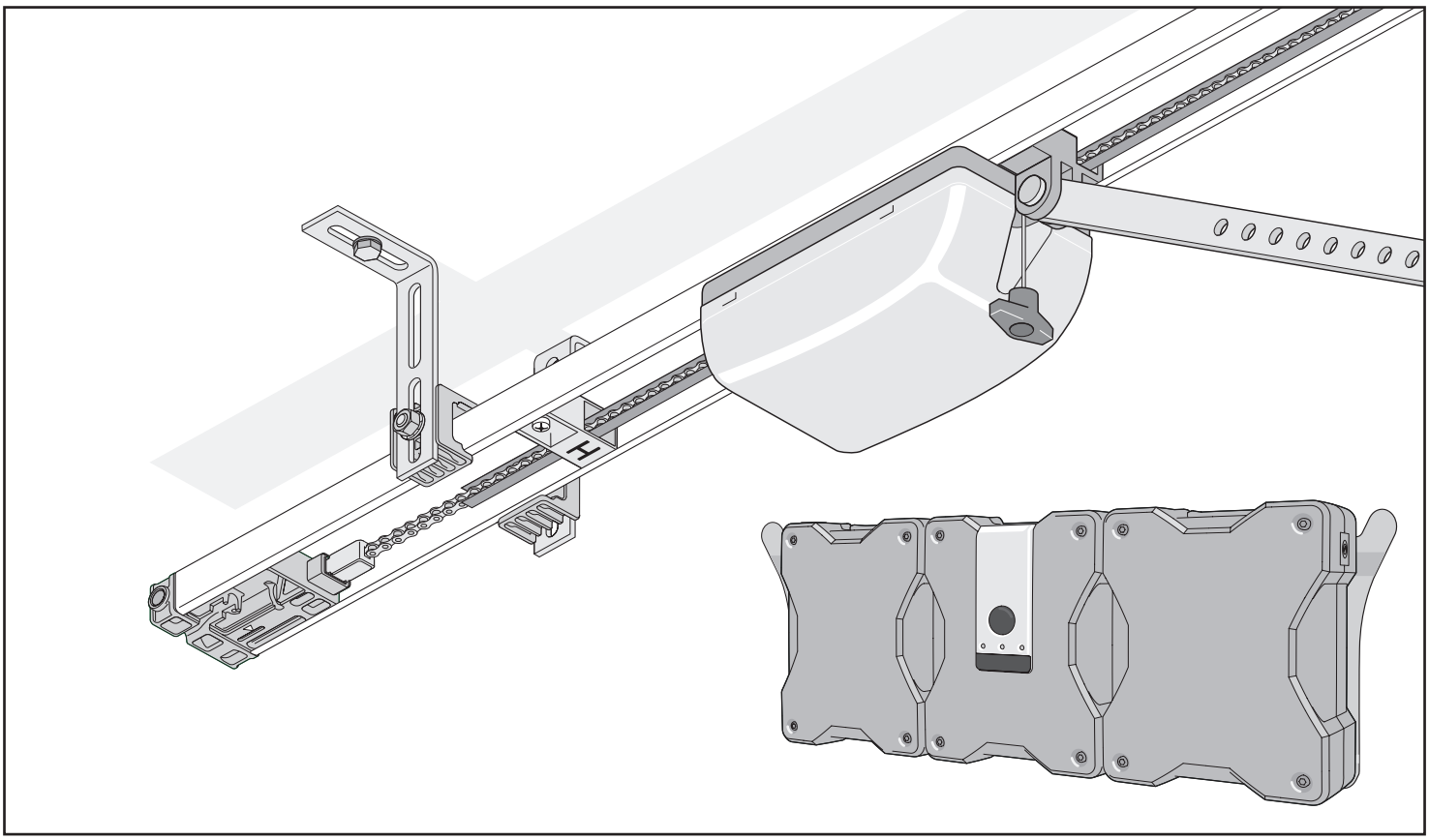
APERTO®



EN TRANSLATION OF THE ORIGINAL INSTALLATION AND OPERATING MANUAL

X-Box 550
X-Box 800

46725V001-392019-0-DRE-Rev-D_EN

Table of contents

General Information

Symbols

Warning signs:
Indicates imminent danger.
If it is not observed serious injuries may occur.

Important information symbol:
Information, useful advice!

1 **Refers to a respective picture in the introduction or main text.**

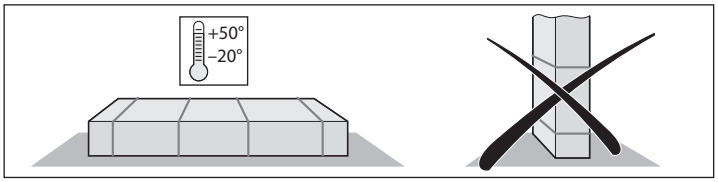
Safety instructions

General

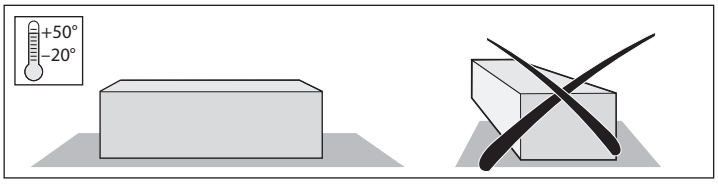
- These installation and operating manual must be read, understood and complied with by persons who install, use or perform maintenance on the operator.
- Installation, connection and initial commissioning of the operator may only be carried out by technically knowledgeable persons.
- Only install the operator on correctly aligned and weight-balanced doors. An improperly aligned door can cause serious injuries or damage the operator.
- The manufacturer assumes no liability for injuries, damage or break-downs that occur due to non-compliance with the installation and operating instructions.
- Make sure that this installation and operating manual is kept within easy reach in the garage.
- Always ensure compliance with accident prevention regulations and current standards in each respective country.
- Observe and comply with the Employer's Liability Rules "Power-operated windows, doors and gates – BGR 232". (Applies to operators in Germany)
- Always disconnect the plug for the control unit before working on the operator.
- Only use OEM (Original Equipment Manufacturer) spare parts, accessories and mounting material.
- If the operator is used only occasionally, the batteries should be recharged after no later than two months in accordance with regulations.
- The service life of the battery may decrease at low temperatures and as the battery gets older.

Storage

- The APERTO X-Box must be stored in an enclosed, dry area at a room temperature of –20 – +50 °C.



- The operator should be stored horizontally.



- Store the X-Box upright.

Operation

- The operator may only be operated if a non-hazardous force value has been set. This force value must be set low enough to ensure that the closing force poses no risk of injury.
- Never put your hand near the door when it is moving or near moving parts.
- Keep children, disabled persons and animals away from the door.
- Do not drive through the door until it has been fully opened.
- There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.
- If the garage does not have a separate entrance or the garage door does not have a built-in slip door, you must install an emergency release (release lock or Bowden cable) that can be operated from outside.

Radio remote control

- The remote control must only be used for devices and systems in which radio interference will not endanger people, animals or objects, or the risk is reduced by other safety devices.
- The user must be made aware that systems that pose an accident risk should only be remote controlled, if at all, if the user can actually see the door.
- The radio remote control may only be used if the door's movement can be watched and no persons or objects are within the range of movement.
- Keep the handheld transmitter so that an unintended operation e.g., by children or animals, is prevented.
- The user of the radio system is not protected from faults due to other telecommunications equipment or devices (e.g. radio-controlled systems that are licensed to operate in the same frequency range). If substantial interference occurs, please contact your appropriate telecommunications office which has radio interference measuring equipment (radio location).
- Do not operate handheld transmitters near locations or installations that are sensitive to radio interference (e.g.: airports, hospitals).

Intended use

Caution! Irreparable damage to the operator!
Do not use the operator to open or close doors unless the counterbalance is set (springs tensioned). Otherwise, you will damage or destroy the motor (transmission).

Caution! Risk of death!
Remove all cords, straps and locks necessary to operate the door by hand.

- The operator is intended exclusively to open and close doors. Any other use does not constitute intended use. The manufacturer accepts no liability resulting from use other than intended use. The user bears the sole responsibility for any risk involved. It also voids the warranty.
- Doors automated with an operator must comply with the valid standards and directives: e.g. EN 12604, EN 12605.
- The operator may only be used if it is in perfect working order and is used as intended, in conscious observation of safety and hazards and in accordance with the installation and operating instructions.
- Malfunctions which could affect safety must be corrected immediately.
- The door must be stable and torsionally stiff, i.e. it must not bend or twist when being opened or closed.
- The operator cannot compensate for any defects in the door or incorrect installation of the door.
- Only use the operator in a dry, non-hazardous area.
- Do not install the operator in areas with a corrosive atmosphere (e.g. salty air).

General Information

Max. permissible door dimensions *

APERTO X-Box:	550	800	
Max. width:			
– One piece door:	3500	5500	mm
– Sectional door:	3500	5500	mm
– Hinged double door **:	–	2800	mm
– Side-sectional or roller door:			
Track 2600	2350	2350	mm
Track 3000	2750	2750	mm
Track 3400	3150	3150	mm
– Up-and-over door | Canopy door:	–	4500	mm
Approx. height			
– One piece door:			
Track 2600	2600	2600	mm
Track 3000	3000	3000	mm
Track 3400	3400	3400	mm
– Sectional door:			
Track 2600	2350	2350	mm
Track 3000	2750	2750	mm
Track 3400	3150	3150	mm
– Hinged double door **:			mm
Track 2600	–	3000	mm
– Side-sectional or roller door:			
Track 2600	2300	3000	mm
– Up-and-over door | Canopy door:			
Track 2600	–	1900	mm
Track 3000	–	2300	mm
Track 3400	–	2700	mm
Duty cycle:	15	15	%

* Door in accordance with EN 12604, EN 12605

** With standard hinged double door fitting, part no. 1501.

For taller doors, correspondingly longer tracks or track extensions must be installed. Please ask you specialist dealer.

Technical data (Aperto X-Box)

General

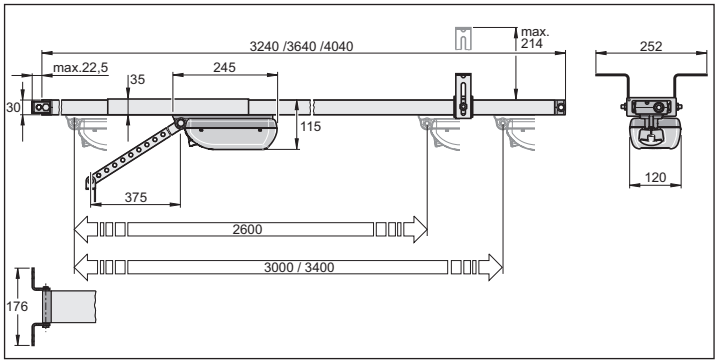
Rated voltage:	24 V DC
Lighting:	Integrated LED lighting
Operational temperature range:	–10 °C to +45 °C
IP-code:	IP 20
Working environmental emissions value:	< 75 dBA – operator only

Operator:	**550**	**800**	
Max. pulling and pushing force:	550	800	N
Rated pulling force:	150	240	N
Rated current consumption (approx.):	4.0	6.4	A
Rated power consumption:	110	160	W
Max. speed:	150	130	mm/s
Nominal power, standby (approx.):	0.1	0.1	W
Weight with track 2600:	16.0	16.0	kg

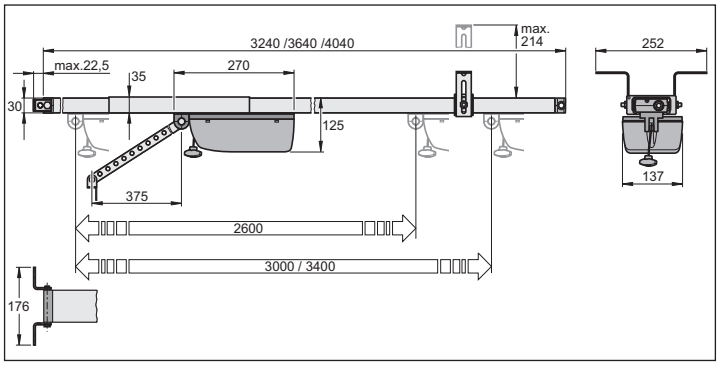
X-Box (battery and control unit):

Discharge voltage:	21 V
Charging end voltage of the lead acid battery:	approx. 28.8 V
Capacity:	14.4 Ah
Open-circuit voltage:	25.6–26.2 V
Self-discharge/Day:	< 0.1 % of nominal capacity
Lifetime of the battery:	At least 3–5 years (Eurobat Standard)
Weigh of 3-piece X-Box:	16.2 kg
Weight of separate battery unit:	5.7 kg

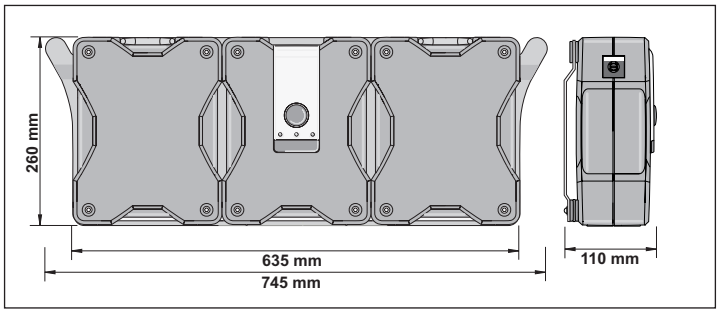
APERTO operator 550



APERTO operator 800



X-Box



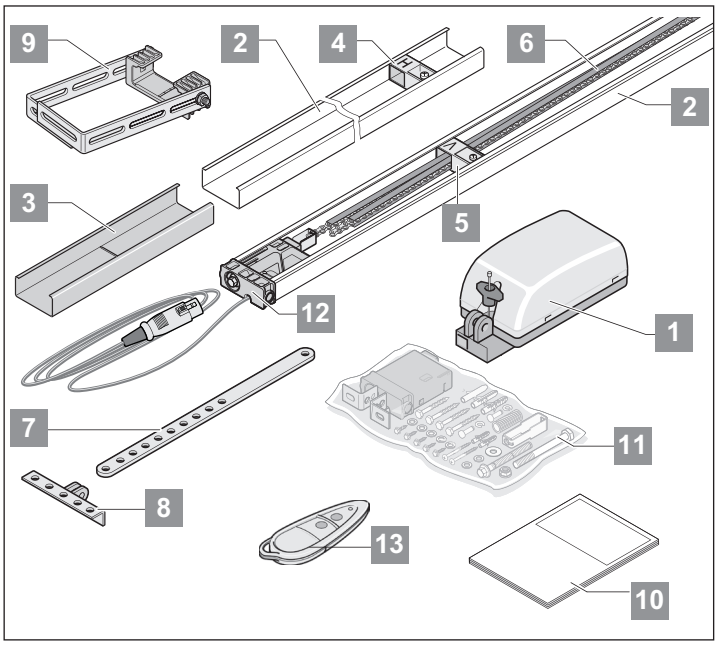
Package (L x W x H):

– Operator	790 x 160 x 160 mm
– Track 2600	1665 x 160 x 50 mm
– X-Box battery and control unit	765 x 335 x 180 mm

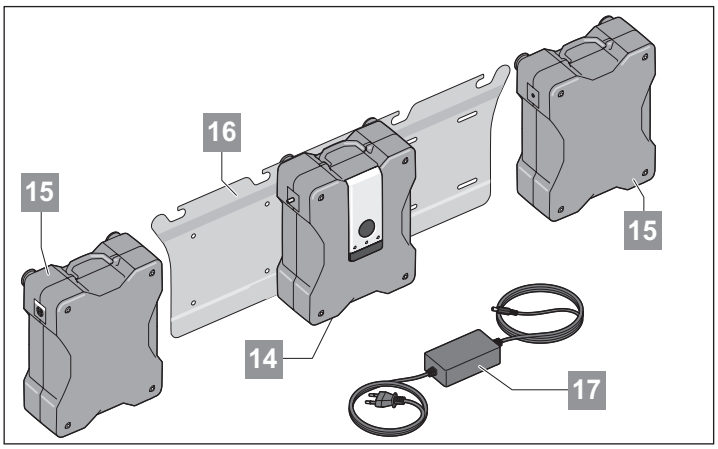
General Information

Scope of delivery

➢ Check that the delivered parts are complete before beginning installation! The actual scope of supply may vary depending on the version.



Item	Name	Quantity
1.	Carriage (chain guide)	1
2.	C-track (uncoated)	2
3.	Connecting sleeve (uncoated)	2
4.	Guide idler “H”	1
5.	Guide idler “V”	1
6.	Chain in chain channel (chain channel is made of plastic. It is not packaging. **Do not remove!**)	1
7.	Push rod	1
8.	Door bracket	1
9.	Ceiling suspension unit | Ceiling suspension bracket | Ceiling bracket | Ceiling attachment | Ceiling mounting unit | Ceiling suspension fitting | Ceiling mount	1
10.	Installation and operating manual	1
11.	Installation bag	1
12.	Slide-in part with control cable (length 5,000 mm)	1
13.	Transmitter | Handheld transmitter | Hand-held remote control | Hand-held sensor	1



Item	Name	Quantity
14.	Control unit (with button and LED light field)	1
15.	Battery units (left and right)	2
16.	Support rail (centre housing is already installed on the track)	1
17.	Charger	1

Caution! Important information!
The Aperto X-Box must always be operated with both battery units connected!
It is only possible to operate with only one battery unit when both battery units are being recharged.

Caution! Important information!
Batteries must be recharged for 8–12 h every time.
This must be done regardless of what the charger display shows, since some residual charging always occurs by the charger in the last few hours.

Caution! Important information!
To increase the lifetime of the battery, the batteries must be charged regularly once a month.

Caution! Important information!
Do not connect the solar module until both battery units are pushed onto the centre station.
When removing both battery units, the solar module must be separated from the centre station.
If this is not observed, damage to the electronics may occur.

EC Declaration of Conformity

for installation of an incomplete machine in accordance
with the Machinery Directive 2006/42/EC, Annex II, Part 1 A

APERTO Torantriebe GmbH
Hans-Böckler-Straße 29
73230 Kirchheim/Teck
Germany

hereby declares that the garage door operators

X-Box 550; X-Box 800

have been developed, designed and manufactured in conformity with the

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

The following standards were applied:

• ESTI EN 300 202 V2.4.1	
• ESTI EN 301 489-1 V1.9.2	
• ESTI EN 301 489-3 V1.6.1	
• DIN EN 60950-1: 2006 + A11:2009 + A1:2010 + A12:2011 + AC: 2011 + A2:2013	
• EN ISO 13849-1 12/2008, PL “C” Cat.2	Safety of machines – safety-related parts of controls – Part 1: General design guidelines
• EN 600335-1 10/2012, where applicable	Safety of electrical appliances/operators for gates
• EN 61000-6-3 11/2012	Electromagnetic compatibility (EMC) – interference
• EN 61000-6-2 06/2011	Electromagnetic compatibility (EMC) – interference resistance
• EN 60335-2-95 04/2011	General safety requirements for household and similar electrical appliances – Part 2: Particular requirements for operators for vertically moving garage doors for residential use
• EN 60335-2-103 06/2014	General safety requirements for household and similar electrical appliances – Part 2: Special requirements for operators for gates, doors and windows

The following requirements of Annex 1 of the Machinery Directive 2006/42/EC are met:
1.1.2, 1.1.3, 1.1.5, 1.2.1, 1.2.2, 1.2.3, 1.2.4, 1.2.5, 1.2.6, 1.3.1, 1.3.2, 1.3.4, 1.3.7, 1.5.1, 1.5.4, 1.5.6, 1.5.14, 1.6.1, 1.6.2, 1.6.3, 1.7.1, 1.7.3, 1.7.4
The special technical documents have been prepared in accordance with Annex VII Part B and are submitted electronically to the regulators on request.

The incomplete machine is intended for installation in a door system only to form a complete machine as defined by the Machinery Directive 2006/42/EC. The door system may only be put into operation after it has been established that the complete system complies with the regulations of the above EC Directive.

The undersigned is responsible for compilation of the technical documents.

Kirchheim, 20-04-2016

CE

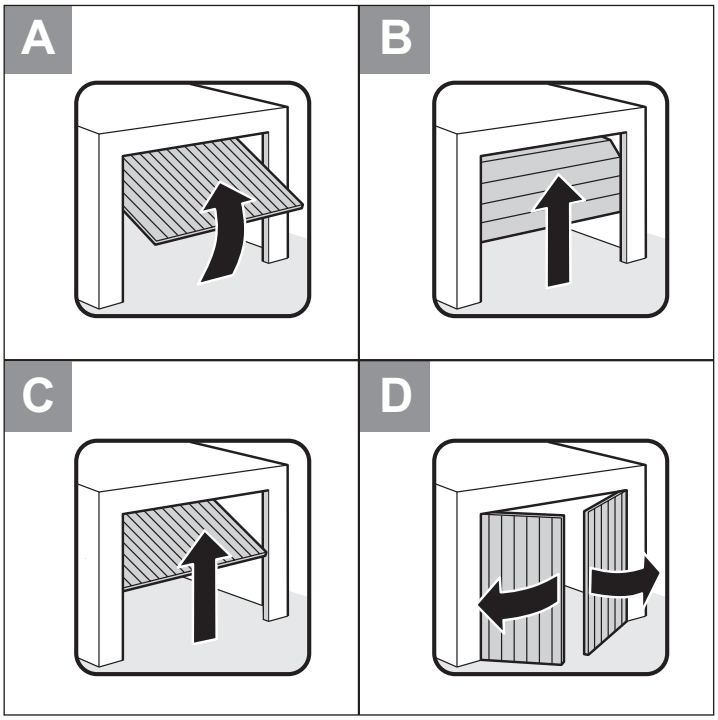
i.V.

Jochen Lude
Responsible for documents

General Installation

Door types and accessories

Accessories are not included in the scope of delivery.



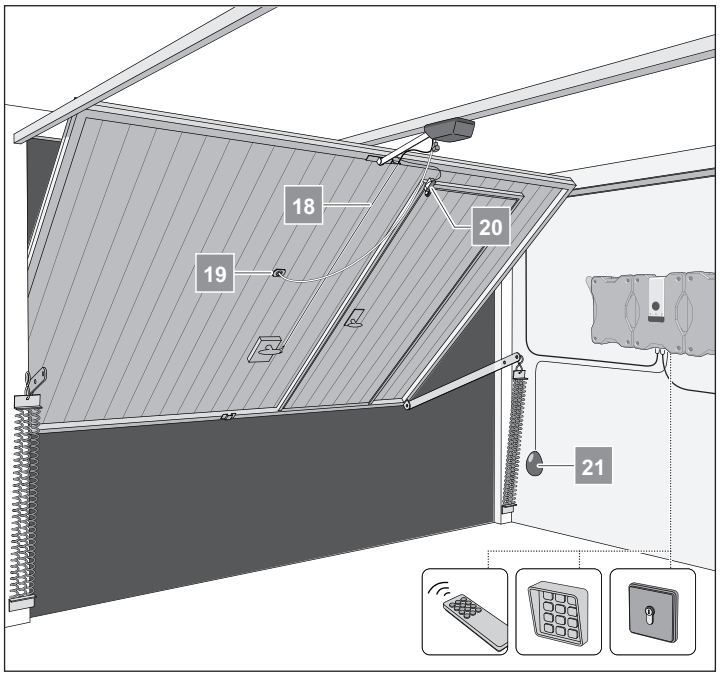
Door type		Accessories
A	Swinging door | One piece door	• No accessories required
B	Sectional door with single rail	• Sectional door fitting with boomerang
		• Release lock (19) *
	Sectional door with double rail	• Sectional door bracket without boomerang
		• Release lock (19) *
	Rolling shutter door	• Release lock (19) *
C	Up-and-over door | Canopy door	• Curved arm
D	Hinged double door	• Caution! Contact specialist dealer!
		• Special emergency release required
		• Wing door fitting | Hinged double door fitting

*** Release lock for emergency release (19) is absolutely mandatory if there is not a separate access point.**

Slip door | Pass door | Built-in pass door

Caution!
If a slip door in set into the door, a slip door safety device (20) must be installed. (Not included in the scope of delivery.)

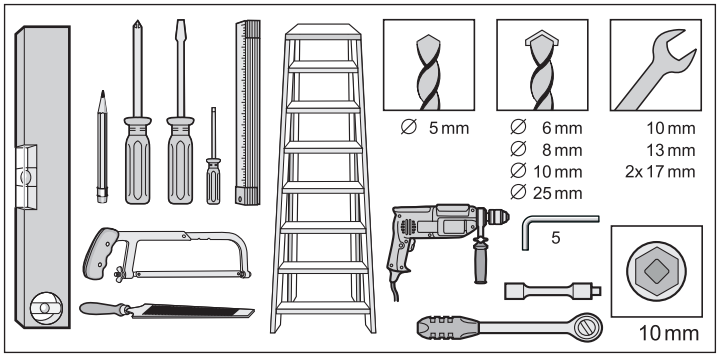
Overview of accessories (optional)



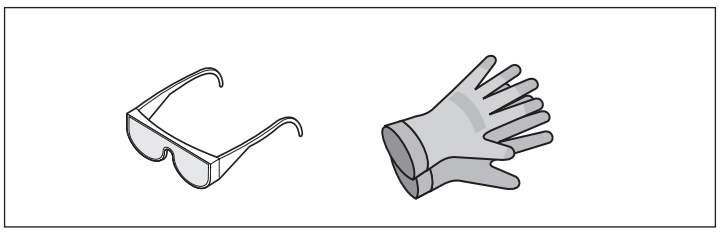
Item	Name
18.	Bowden cable for extending the emergency release
19.	Release lock for emergency release
20.	Slip door safety device | Pass door fuse | Slip door safeguard
21.	Photo eye

- Telecody for wireless activation of the door with a number combination
- Code keypad for activation of the door with a number combination
- Key switch for activation of the door with a key
- Locking set

Tools required



Personal protective equipment



- Safety glasses (for drilling)
- Protective gloves (e.g. when handling cut-off pieces of perforated strip steel)

Installation

Safety instructions

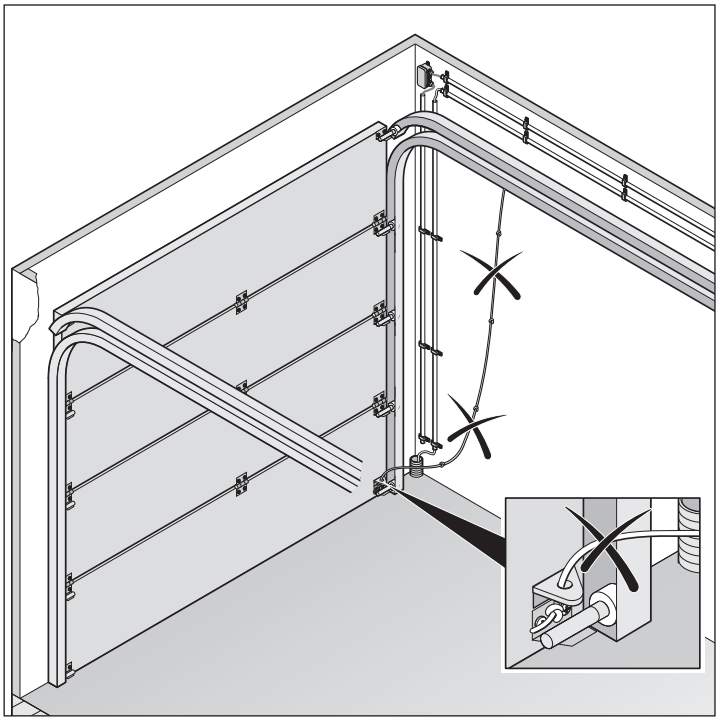
Caution!
Walls and ceiling must be solid and stable.
Only install the operator on a correctly aligned door.
An incorrectly aligned door could cause serious injury.

- The operator may be installed, connected and commissioned by competent personnel only.
- Do not move the door, if there are any people, animals or objects in the area of movement.
- Keep children, disabled persons and animals away from the door.
- Wear safety glasses when drilling the fastening holes.
- Cover the operator and track during drilling to prevent dirt from entering the operator unit or operator track.
- Use only approved fasteners (e.g. anchor fittings, screws). The fasteners must be suitable to the material of the ceilings and walls.
- The supplied track supply line must not be shortened. Use only an original extension set to extend the line.
- Live parts of the operator (voltage-carrying parts, e.g. C-track) may not be connected to the ground or with live parts or grounding conductors of other electrical circuits.

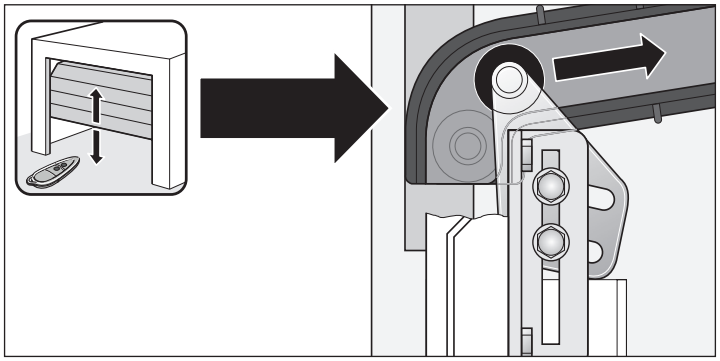
Safety-related preparation of the door

Caution!
The preparations must be made with the utmost care, since faulty preparations can lead to serious injuries as well as major damage to the operator and your garage.

Caution! Risk of death!
Remove all cords, straps and locks necessary to operate the door by hand.



- Doors must be stable in themselves, since high traction and compression forces are encountered. Reinforce lighter doors made of plastic or aluminium if necessary before installation. Ask a specialist retailer for advice.
- All existing mechanical door locks must be removed or made non-functional before beginning installation.
- Check that the door runs smoothly.
- The door must be counterbalanced.
  Test: Half-open the door by hand. The door must remain in this position. If the door moves up or down, re-adjust the door mechanically. Ask a specialist retailer for advice.
- Check the distance between the highest running point of the door (THP, see Figure 11) and the lower edge of the C-track. The distance between the THP and the lower edge of the C-track must be between 5 mm and 65 mm; the angle of the door arm must be max. 30° (see graphic 21). If the distance is less than this, the operator must be moved back and a longer push rod must be installed. Ask a specialist retailer for advice.
- The travel path of the operator must be free of obstacles. Obstacles must be properly removed before installation since collisions are a safety risk and can damage the operator.
- Adjusting the top roll of a sectional door



Lay the emergency release outside

Caution!
Most garages do not have a separate entrance (e.g. slip door). That is why the emergency release on the operator must be led outside to make it possible to open the door from outside in the event of a power failure or door defects.
To do so, use the Bowden cable (18) or a release lock (19), which is not included in delivery.
(See accessory instructions for installation)

Installing slip door safety device

Caution!
If a slip door is in set into the door, but not a slip door safety device, a slip door safety device (20) must be installed.
(See accessory instructions for installation).

Installation

Tips for installation

- Check the delivery scope components before beginning installation; this way you save time and unnecessary effort if a part is missing.
- It is safest and quickest to do installation with two people.
- If the operator cannot be installed in the centre of the door, it may be shifted. Make sure that the door does not bow and get stuck in the rails.

  Check:
  Open and close the door by hand several times at the location where the operator is to be installed. If the door can be operated easily at this location (without exceeding the specified forces), then the operator can be installed.
- **Swing doors:**
  Because the mechanical locking of a door equipped with a operator must be removed or disabled, depending on the design of the door, it could be possible to manually raise the door approx. 50 mm.
  To counteract this, spring catches can installed to lock the door in addition to the operator.
  These spring catches are connected to the operator by means of a locking set; when opening a door, the spring catches must first be disengaged before the operator can open the door.

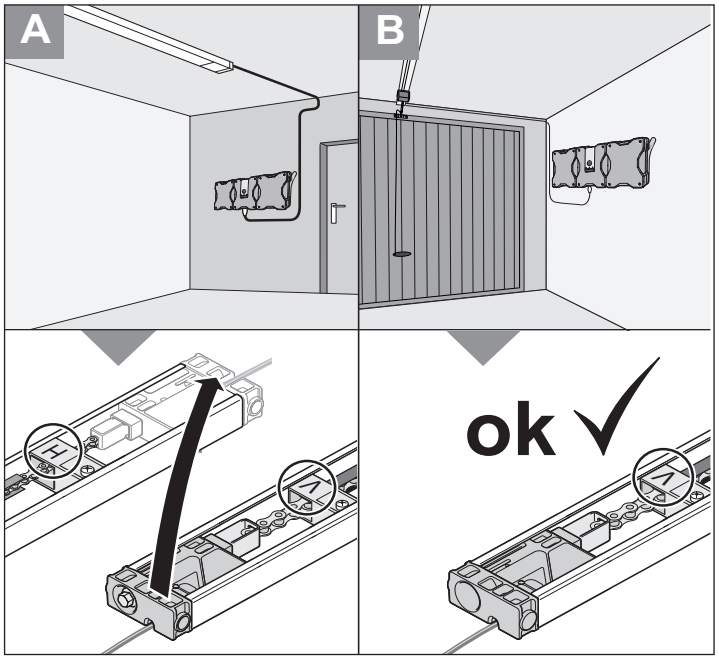
Important information!
Additional pulse transmitters are: Handheld transmitters, Telecody, wireless indoor switches and key switches. In the case of the handheld transmitter, Telecody or the wireless indoor switches, a connecting line to the operator is not required; consult your dealer.

Selection of installation variants

Caution!
The chain cover is not packaging.
Do not remove it!

Important information!
Select the variant you wish to install. Convert the power feed for variant (A).

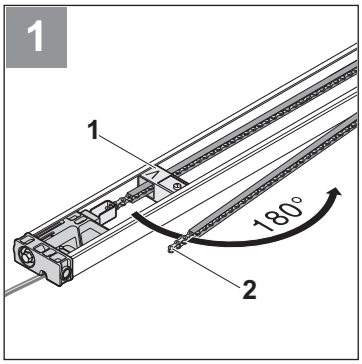
Installation variant A **Installation variant B**



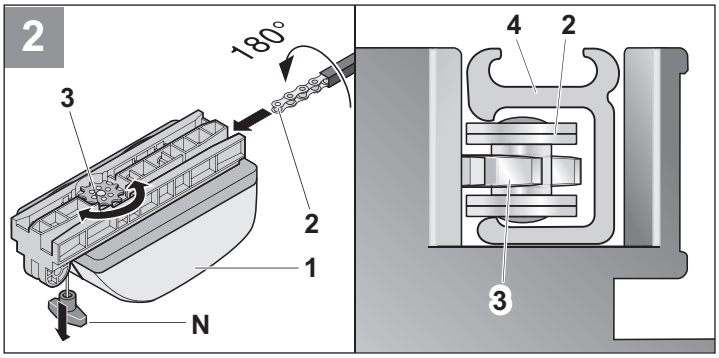
Preinstallation of installation variant A

Important information!
Dispose of the packaging according to locally applicable regulations.

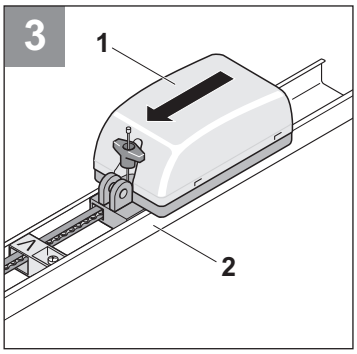
- **Remove the operator from the packaging.**

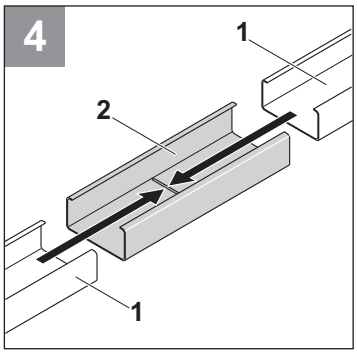


1 • Loosen the guide idler (1) and push it in the direction of the arrow; fold out the chain guide (2).



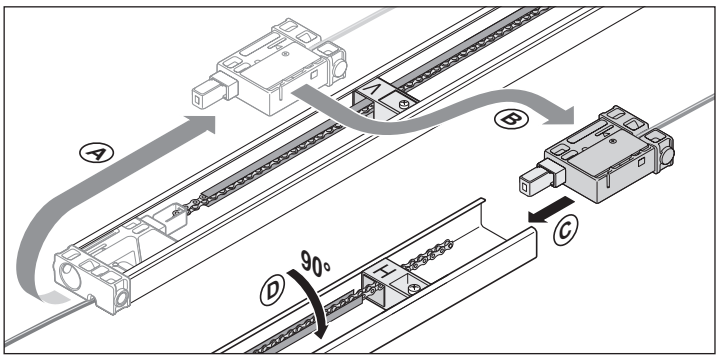
2 • Slide the carriage (1) onto the chain (2) with chain guide (4). The chain (2) engages in the chain wheel (3). If the chain wheel (3) does not rotate, pull once on the emergency release cord (N). The chain wheel (3) is then unlocked.

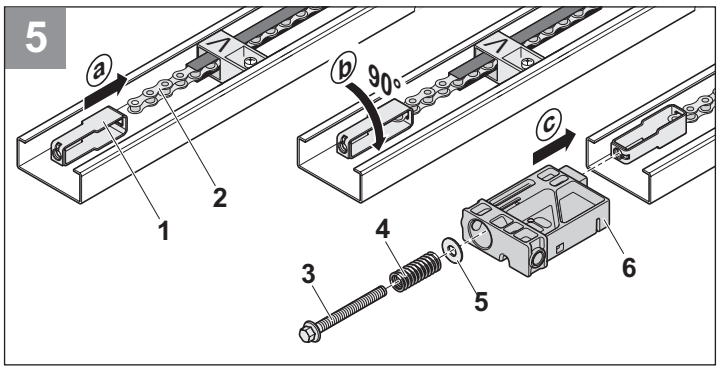




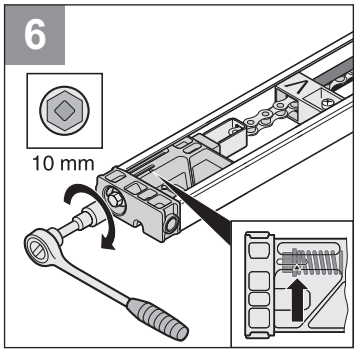
3 • Push trolley (1) onto C-track (2).

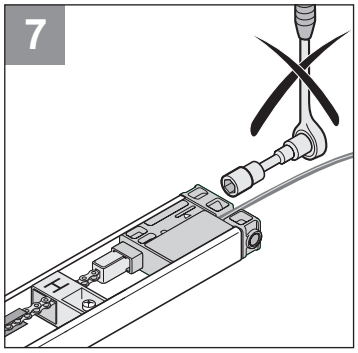
4 • Insert two C-track parts (1) in the connecting sleeve (2) up to the stop position.





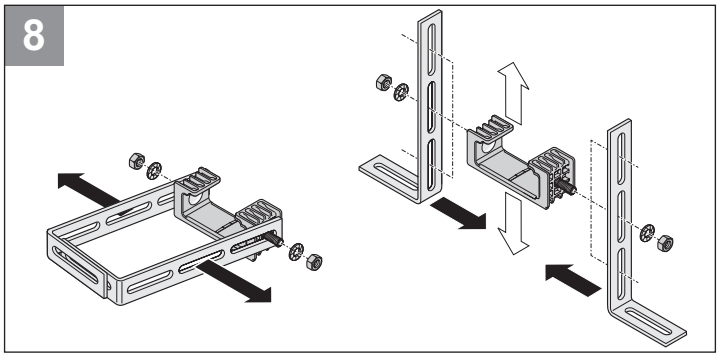
5 • Attach tensioner (1) to chain (2) and turn it 90°. Insert connecting element (6) and push tensioner (1) through it. Put U-washer (5) and spring (4) on the tensioning bolt (3) and screw the tensioning bolt (3) into the tensioner (1).



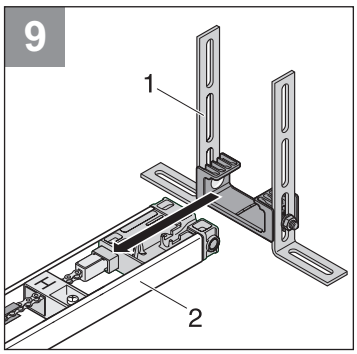


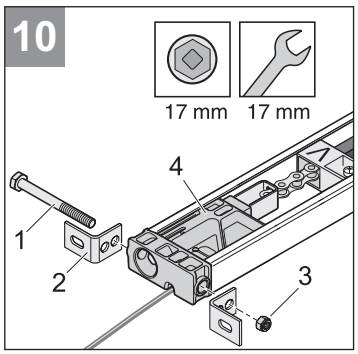
6 • Tighten the chain as far as the mark (arrow).

7 • Don't tighten here; pretensioned at the factory.



8 • Disassemble the two steel brackets with washers and toothed lock washers from the ceiling suspension bracket.





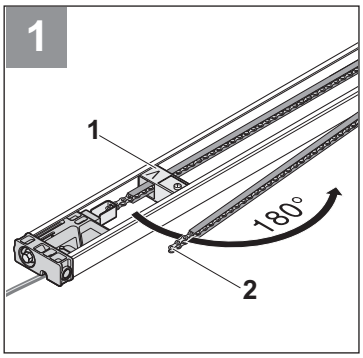
9 • Push the ceiling suspension bracket (1) onto the C-track (2).

10 • Mount bracket (2) with screw (1) and nut (3) on the connecting element (4).

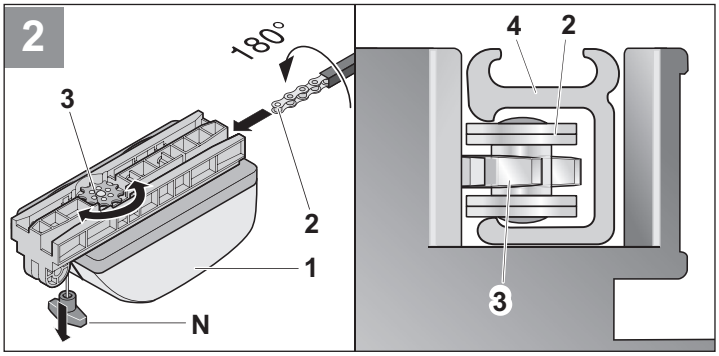
Preinstallation of installation variant B

Important information!
Dispose of the packaging according to locally applicable regulations.

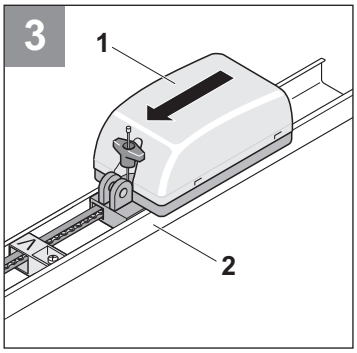
- **Remove the operator from the packaging.**

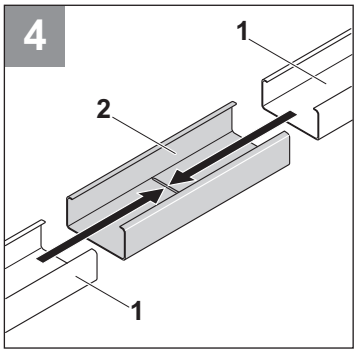


1 • Loosen the guide idler (1) and push it in the direction of the arrow; fold out the chain guide (2).



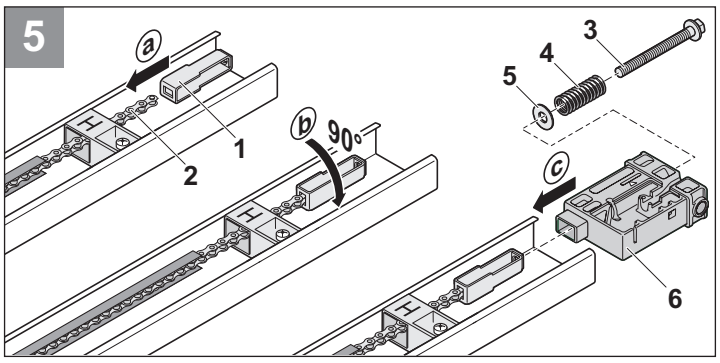
2 • Slide the carriage (1) onto the chain (2) with chain guide (4). The chain (2) engages in the chain wheel (3). If the chain wheel (3) does not rotate, pull once on the emergency release cord (N). The chain wheel (3) is then unlocked.



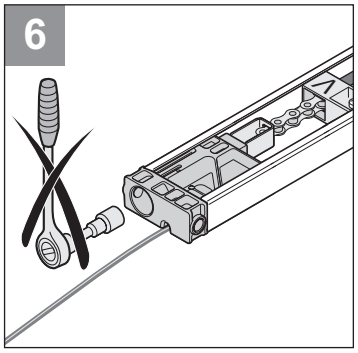


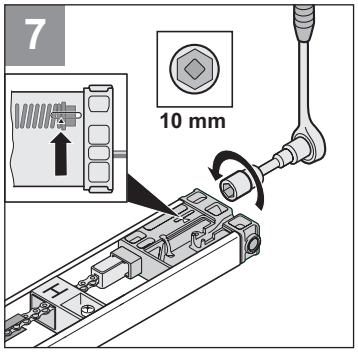
3 • Push trolley (1) onto C-track (2).

4 • Insert two C-track parts (1) in the connecting sleeve (2) up to the stop position.



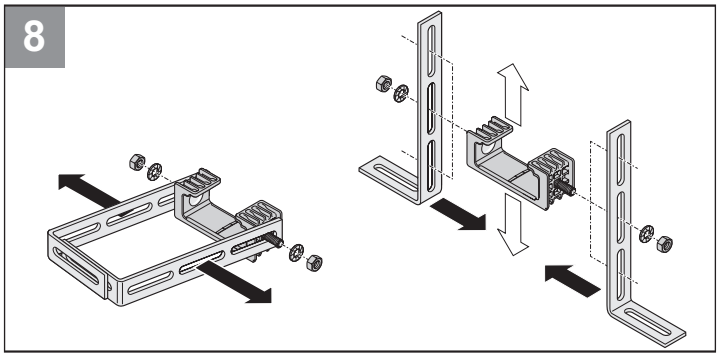
5 • Attach tensioner (1) to chain (2) and turn it 90°. Insert connecting element (6) and push tensioner (1) through it. Put U-washer (5) and spring (4) on the tensioning bolt (3) and screw the tensioning bolt (3) into the tensioner (1).



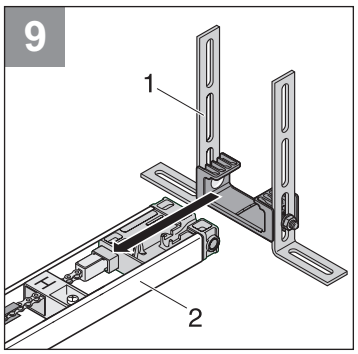


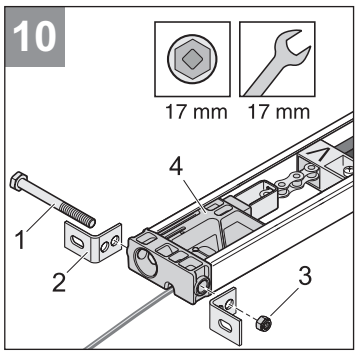
6 • Don't tighten here; pretensioned at the factory.

7 • Tighten the chain as far as the mark (arrow).



8 • Disassemble the two steel brackets with washers and toothed lock washers from the ceiling suspension bracket.





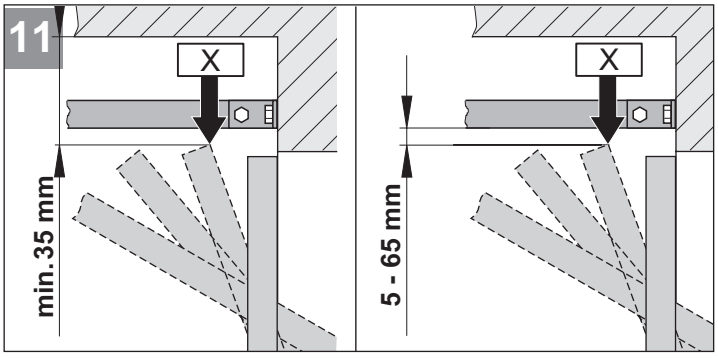
9 • Push the ceiling suspension bracket (1) onto the C-track (2).

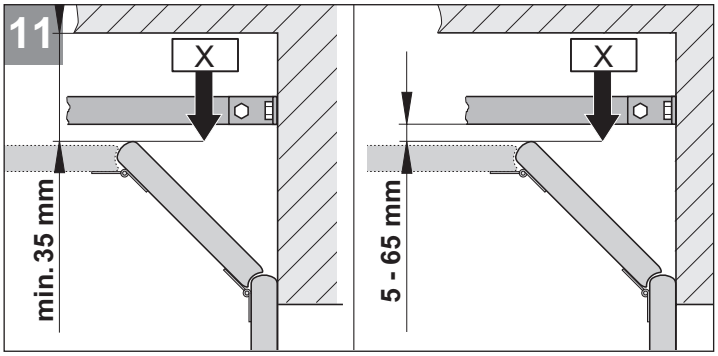
10 • Mount bracket (2) with screw (1) and nut (3) on the connecting element (4).

Installation (example: installation variant B)

Caution!
Use a non-slip, stable ladder.

Important information!
If the distance between the ceiling and the bottom edge of the C-track is greater than 245 mm, extend the ceiling suspension bracket with perforated strip steel.

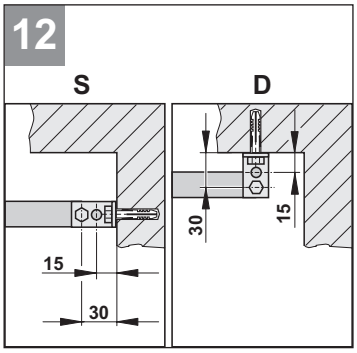


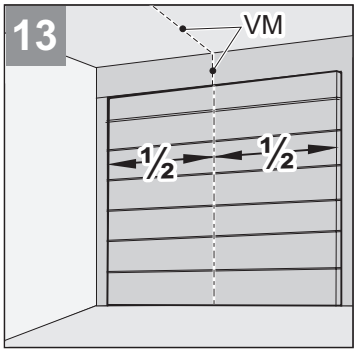


11 • Finding the highest running point of the door (THP): open the door and measure the closest distance (min. 35 mm) between the top edge of the door and the ceiling. The distance between the THP and the lower edge of the C-track must be between 5 mm and 65 mm; the angle of the door arm must be max. 30° (see graphic 21).

Important information!
Please observe that the distance may possibly be reduced if a door handle is attached to the middle of the door. The door must be able to run freely.

Important information!
If installing on the ceiling (D), space the drill holes 15 mm apart if possible.
Reduced tilting angle of the mounting bracket.

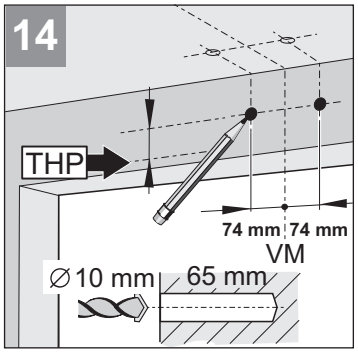


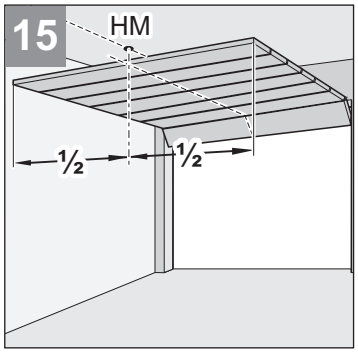


12 • The operator can be mounted on the header (S) or on the ceiling (D).

13 • Measure the front of the centre of the door (VM) and mark on the door and on the lintel or ceiling.

Caution!
Wear safety glasses when drilling! Take the thickness of the wall or ceiling into consideration, especially with regard to prefab concrete garages.

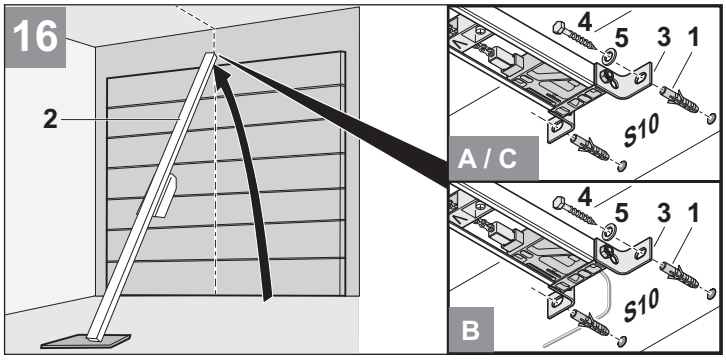




14 • Mark points 74 mm to the right and left of the centre of the door (VM) at the same height on the lintel or ceiling (see Fig. 11).

• Drill two holes (Ø 10 x max. 65 mm deep). **Make the holes somewhat shallower in prefab concrete garages.**

15 • Open the door. Transfer the mark from the centre of the door to the ceiling (HM). Close the door.

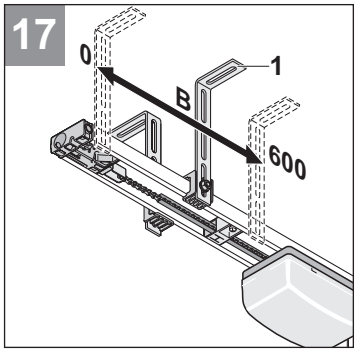


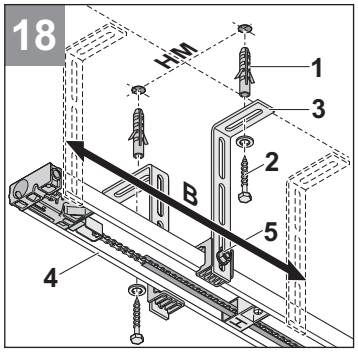
16 • Insert anchor fittings (1). Lift the operator (2) at the front. Tightly fasten header fitting (3) at the front with two screws (4) and U-washers (5).

• Lift up the operator (2).

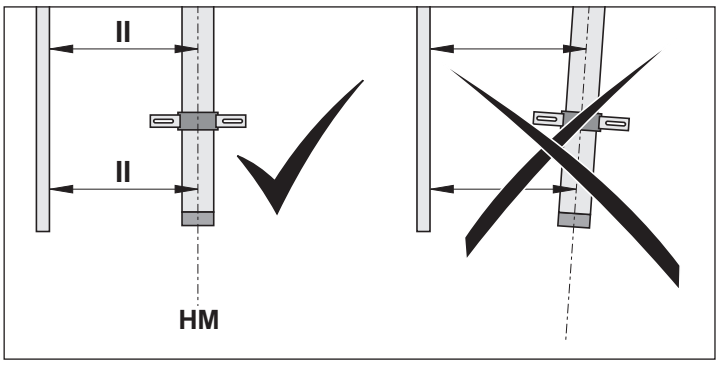
Caution!
Always ensure that the operator is installed parallel to the rails of the door.

Caution!
Wear safety glasses when drilling! Take the thickness of the wall or ceiling into consideration, especially with regard to prefab concrete garages.



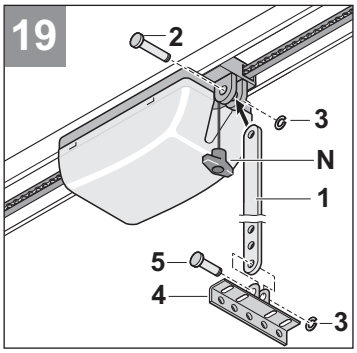


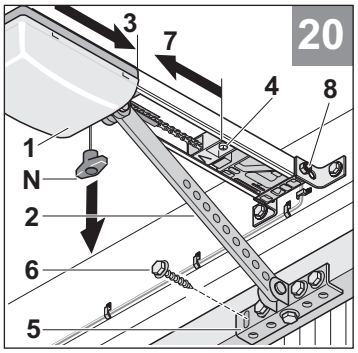
Installation



17
- Align ceiling bracket (1). The position should be in the range of (W = 0…600 mm).
- Align the operator horizontally to the rear of the centre of the door (HM). Mark the drill holes. Drill two holes (Ø 10 x max. 65 mm deep). **Make the holes somewhat shallower in prefab concrete garages.**

18
- Insert anchor fittings (1). Place U-washers (3) under the two screws (2). Tighten screws.
- Align C-track (4) at correct height. If required by this, reposition the screws (5). Tighten the screws (5).

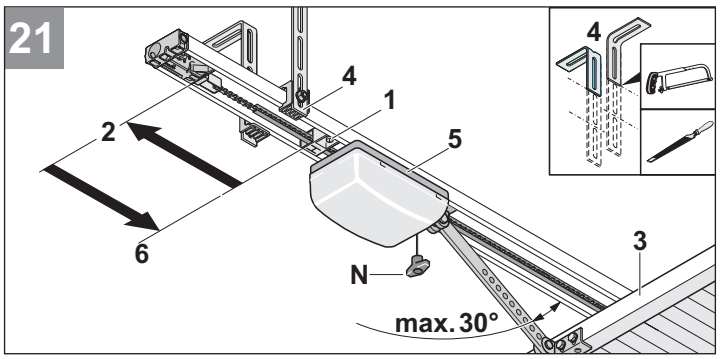




19
- Installing push rod (1): insert long bolt (2) and slide on the clamp (3).
- Fasten door bracket fitting (4) to the push rod (1) with short bolts (5). Slide on the clamp (3).

20
- Pull once on the emergency unlocking cord (N). The carriage (1) is unlocked. Tighten screw (8) on header fitting.
- Slide the carriage (1) all the way to the front (3) with the connecting rod (2). If necessary, loosen guide idler (4).
- Align door bracket fitting (5) with the centre of the door and mark 5 drill holes. Drill 5 holes (Ø 5 mm).

Important information!
Use screws suitable for the material of the door.
Wear safety glasses when drilling!
- Insert 5 hex screws (6) and tighten.
- Loosen the guide idler (4) push it right up to the carriage (7).
- Tighten the guide idler (4) screw.



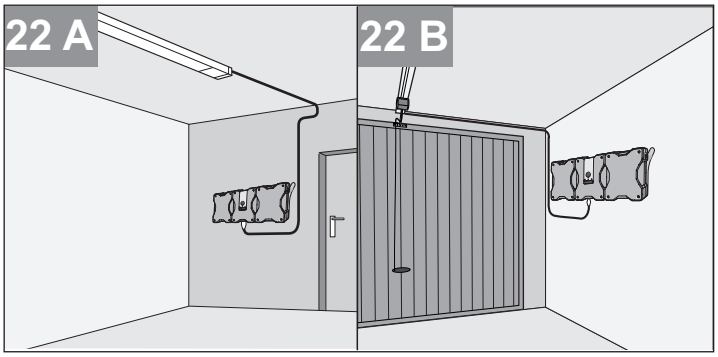
21
- Loosen the switch-trigger (1) and push it completely back to the stop position (2). Open the door (3) by hand.

Important information!
Shorten the protruding ceiling suspension bracket (4) (e.g. cut off and debur).
- Push the guide idler (1) right up to the carriage (5) to the stop position (6) until it clicks. Tighten the screw on the guide idler (1).

Mounting and connecting the X-Box

Selection of the installation variant:

Installation variant A **Installation variant B**



22 • Selecting a suitable place for the X-Box:

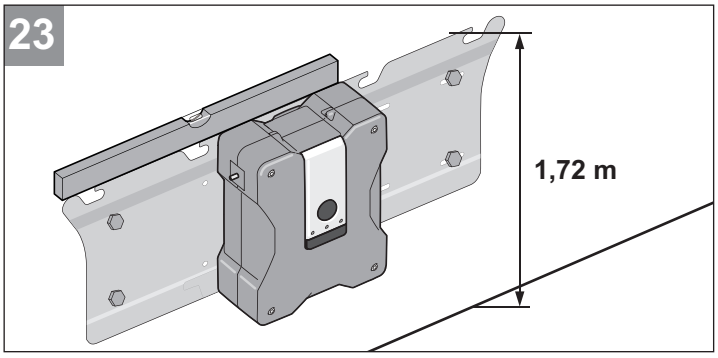
Caution!
The user must not stand in the range of movement of the door when activating the switch.
The range of movement of the door must be clearly visible.

• Height of the centre point of the button from the floor: at least 1.6 m.

Caution!
Bear in mind the installation position of the X-Box.
Ensure that the maximum length of the control cable of 5000 mm is not exceeded.

• Install the control cable (24 V) to the control unit housing in the garage. Do not yet connect the XLR plug of the operator to the X-Box!

Caution!
Note the wall thickness of the garage.



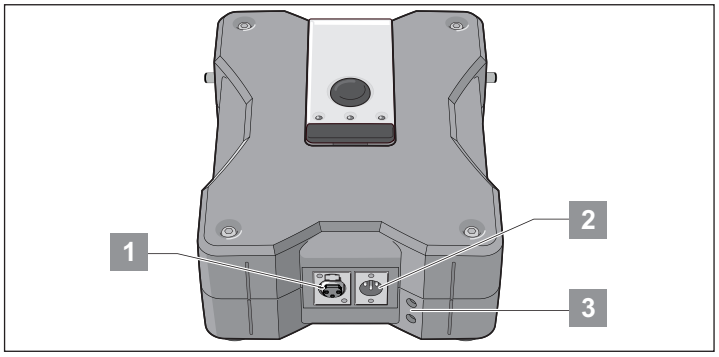
23 • Mark horizontal holes for the support rail on the wall, drill 4 holes, minimum height of 1.72 m up to the upper edge of the track, install the support rail so it is exactly horizontal.

Connecting solar module

Caution!
Connect only a suitable 12 W or 23 W solar module.

Caution! Important information!
Do not connect the solar module until both battery units are pushed onto the centre station.
When removing both battery units, the solar module must be separated from the centre station.
If it is not observed, damage to the electronics may occur.

- Install the solar module following the operating instructions.
- Insert the module into the socket (2) on the underside of the control unit after commissioning the operator.



Commissioning

Safety instructions

Caution!
After installation of the operator, the person responsible for the installation must complete an EC declaration of conformity for the door system in accordance with Machinery Directive 2006/42/EC and apply the CE mark and a type plate. This is also required for private installations and also if the operator is retrofitted to a manually operated door. This documentation and the installation and operating manual are retained by the operator.

Caution!
The adjustment of the force tolerance is safety-relevant and must be performed by qualified personnel with the utmost care. If the adjustment of the spring unit is excessively high, people or animals could be injured and objects damaged. Select a force tolerance that is as low as possible so that obstacles are detected quickly and safely.

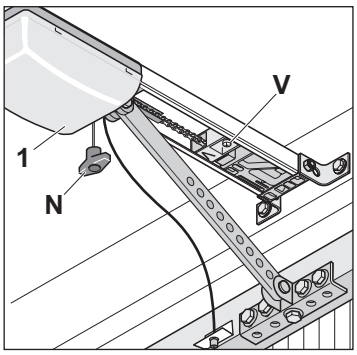
Caution! Danger of falling!
In an emergency release the door could independently open or close itself due to a broken spring or incorrect setting of the weight balancing.
The operator could be damaged or destroyed.

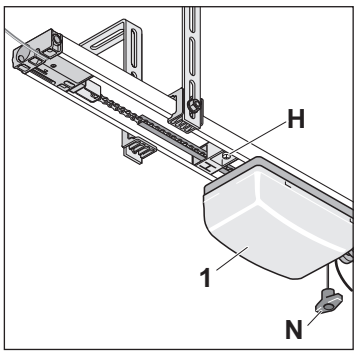
Adjust door end positions for CLOSE + OPEN

Caution!
Make sure the travel path of the operator is free of obstacles. Obstacles (e.g. cross beams between the rails of the door) damage the operator and must be removed properly before commissioning.

Caution!
Check the following:
- **Have all mechanical door locks been removed?**
- **Can the emergency release be activated from outside using a Bowden cable or release lock?**

Important information!
When opening and closing the door manually, do not operate it with the operator engaged.





Door CLOSE end position

- Unlock the carriage, if it is not already unlocked. Pull once on the emergency unlocking cord (N). It should be possible to manually push the carriage back and forth.
- Close the door by hand.
- Loosen the guide idler (V) and push it toward the carriage until it clicks (end switch switches), then screw the guide idler (V) in tight.

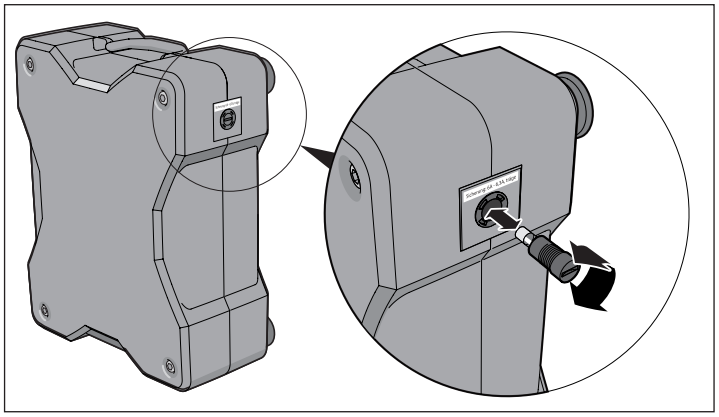
Door OPEN end position

- Open the door by hand.
- Loosen the guide idler (H) and push it toward the carriage until it clicks (end switch switches), then screw the guide idler (H) in tight.
- Close the door by hand.

Putting the battery units into operation

Inserting fuses

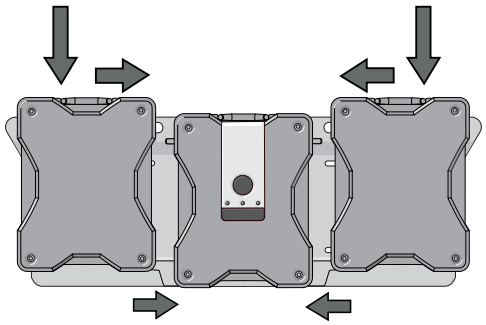
Insert supplied glass tube fuses (T 6 A) into the fuse holders on the outside of the battery units.The right-hand battery unit is pictured; the left side corresponds to the illustration.



Attaching the battery units to the support rail

Important information!
The support rail must be assembled so it is absolutely horizontal for it to function perfectly. Attach the battery units so that the fuse is located on the outside.

24



24
- The left and right battery units are attached from above and pushed together with the control unit.
- If the red LEDs do not stop blinking a few seconds after attaching, no contact exists.

Programming the operator

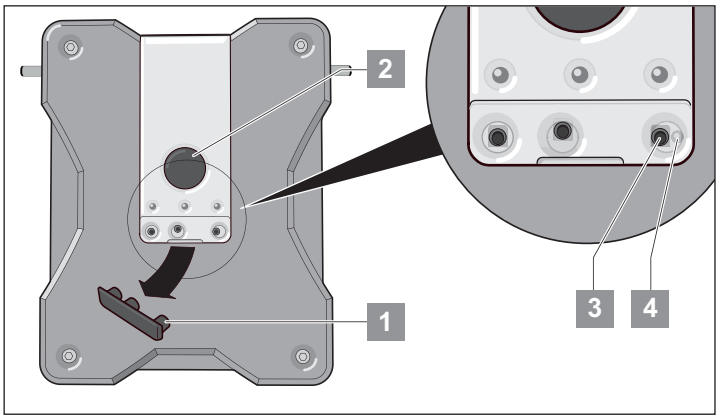
The control unit has an automatic force setting. The control system memorizes the required force during the “OPEN” and “CLOSE” door movements and stores it when the end position has been reached.

Program the operator with two people. One person works the operator, the other remains outside the garage to supervise.

Caution!
Insert both battery units into the control unit before you program the operator.

Important information!
The first movement of the operator after connecting the X-Box must always be door OPEN. If this isn't the case, contact the specialist dealer.

- Insert the operator plug (XLR plug) on the underside of the control unit.



- Take off the rubber cover (1).
- Press the button (2) (e.g. with a small screwdriver), the door opens until the door OPEN end position is reached or is open.
- Close door, press button (2).

Resetting the control unit

- Activate control unit by pressing on the wall button (2).
  – White LED lighting lights up.
- Press button (3) until the red LED (4) goes out.
- LED off – force values deleted, release button (3).
- Red LED (4) flashes – controller reset successful.

Perform the following procedure twice:

- Press button (2) 1x – door opens to switch-trigger (H, door OPEN)
- Red LED (4) flashes during opening and when open – not yet programmed!
- Press button (4) 1x – door closes to switch-trigger (V, door CLOSED)
- Red LED (4) does not flash.

Important information!
The white LED lighting must remain on during the entire reset. It must no go out until the red LED (4) is no longer flashing.

- **When the red LED (4) stops flashing in end position “door CLOSE”, force values are programmed and saved.**
- **The operator has been successfully programmed!**

Check door end positions OPEN + CLOSED

The running path of the operator can be extended or shortened by means of the guide idlers.

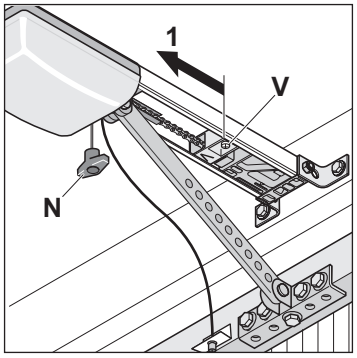
Check whether the door opens and closes completely. If this isn't the case, then the running path must be adjusted.

- Activate command initiator (e.g. button, handheld transmitter) once. Door opens.

If the door does not reach the required end positions on door OPEN + CLOSE, reset the end positions. See the chapter “Adjusting the door OPEN + CLOSE end positions”.

Checking the emergency release

Important information!
You can activate backjump for sectional doors or doors with ceiling guides by means of DIP switch 6; this relieves the operator and door mechanisms.
Simpler actuation of the emergency release.



- Close the door with the operator.
- Pull once on the emergency release (N).
- If the emergency release cannot be actuated, loosen the end switch (V) and push it a bit in direction (1).
- Open and close the door with the operator.
  Recheck the emergency release.

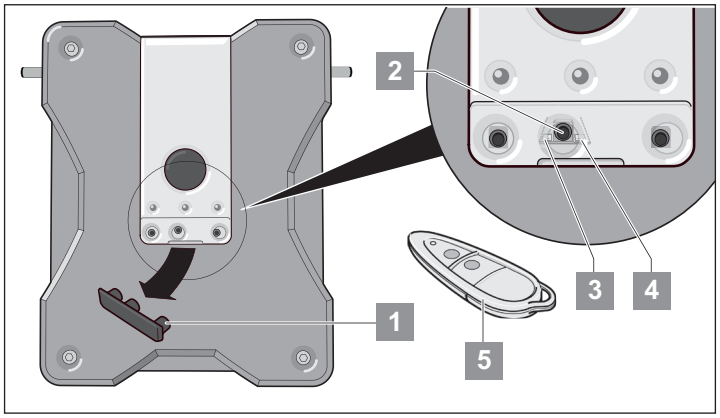
Check the force settings.

For every run of the door, the control unit compares the stored force values with the actual values required and automatically adjusts the stored values upon reaching the end position.

Check: See Care and maintenance.

Programming handheld transmitter

Important information!
Before programming the handheld transmitter for the first time, always clear the radio receiver memory completely.



Deleting the radio receiver memory

- Take off the rubber cover (1).
  Press and hold the Teach-in button (2).
  – After 5 seconds, the LED (3 or 4) flashes – after another 10 seconds the LED (3 or 4) is steady.
  – After a total of 25 seconds, both LEDs light up (3 + 4).
- Release Teach-in button (2) – the deletion procedure is ended.

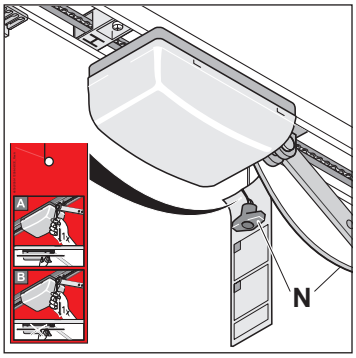
Programming handheld transmitter

- Activate command initiator (e.g. button, handheld transmitter) once. Door opens.
  – 1x for channel 1; the LED (3) lights up.
  – 2x for channel 2; the LED (4) lights up.
  – If no button is pressed on the handheld transmitter (5) within 10 seconds, the radio receiver switches to Normal mode.
  – Cancelling the teach-in mode: Press the Teach-in button (2) until no more LEDs are lit.

- Press the desired handheld transmitter button (5) until the LED (3/4) extinguishes, depending upon which channel has been selected.
- LED goes out - programming is finished. The handheld transmitter has transferred the radio code to the radio receiver.

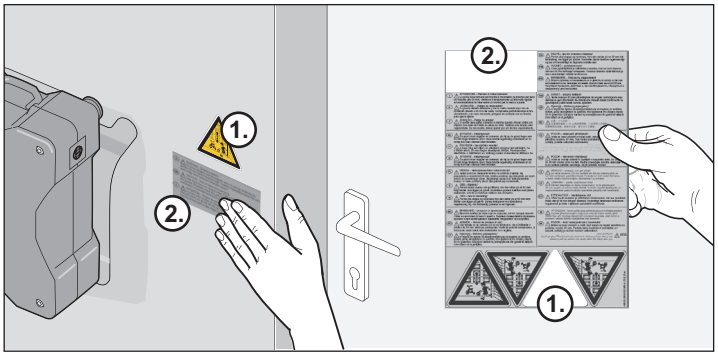
Programming additional handheld transmitters. Repeat the above steps.
A maximum of 112 storage locations for each radio receiver are available.

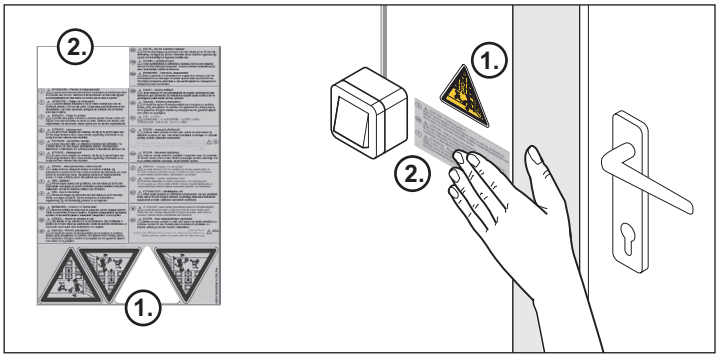
Mount the information sign.



- The information sign concerning the function of the emergency release; please hang on the emergency release cord.

Attaching the warning sign





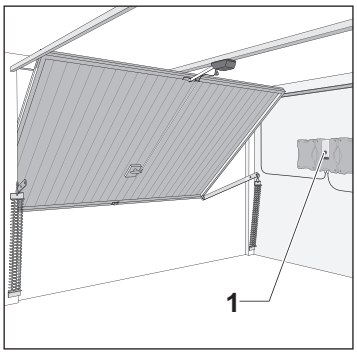
- Please attach the warning signs (text + triangle sign) to a position where they are clearly visible, e.g. beside the button (warning triangle) and on the door wing (text + warning triangle).
  The additional handheld button is not included in the scope of delivery.

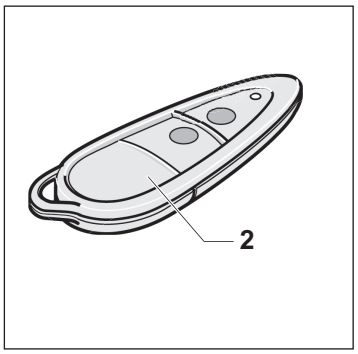
Operation/Use

Safety instructions

- Keep children, disabled persons and animals away from the door.
- Never reach into a moving door or moving parts.
- Do not drive through the door until it has been fully opened.
- There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.

Opening the door





- Press button (1) or handheld transmitter button (2) once.
- If the button is pressed during the door OPEN movement, the door stops.
- It closes when pressed again.

Closing door

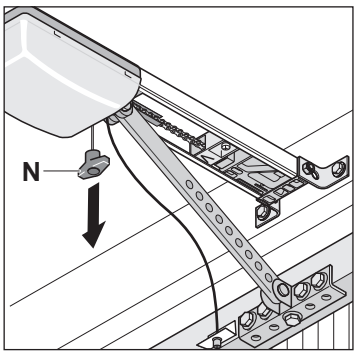
- Press button (1) or handheld transmitter button (2) once.
- If the button is pressed during the door CLOSE movement, the door stops. Depending on DIP switch 7.
- It opens when pressed again.

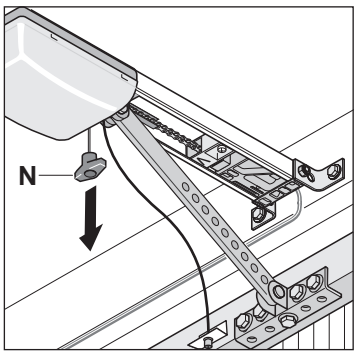
Emergency release

Caution!
The emergency release is only suitable for opening or closing the door in an emergency.
E.g.: a power outage or operator failure. It is not suitable for regularly opening or closing the door for other reasons. This could cause damage to the operator or door.

Caution!
In an emergency release the door could independently open or close itself due to a broken spring or incorrect setting of the weight balancing.
The operator could be damaged or destroyed.

Important information!
It can be locked and released in any door position.

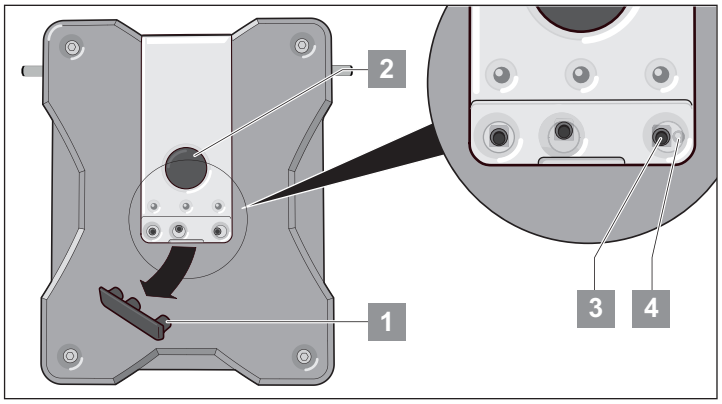




- Pull the emergency release cord (N) once; the operator moves freely and the door can be moved manually.
- Pull the emergency release cord (N) once again; the operator locks and the door can only be moved with the motor.
- If there is a slip door installed in the door but no slip door safeguard – install a slip door safeguard (see accessories instructions).
- If the garage door does not have a built-in slip door or the garage does not have a separate entrance, you must install an emergency release – a release lock or Bowden cable – that can be operated from outside (see accessories instructions).

Control unit reset

Important information!
After a control unit reset, the operator must be reprogrammed.



- Take off the rubber cover (1).
- Press button (3) until the red LED (4) goes out.
- LED off – force values deleted, release button (3).
- Red LED (4) flashes – controller reset successful.
- Reattach the rubber cover (1).

Intermediate stop

An intermediate stop, caused by actuating a button or handheld transmitter, immediately stops the operator. At the next command the operator moves in the opposite direction, see “Pulse sequence of door movement”.

Safety stop 1 (power cut-off)

For a power cut-off, the operator stops or reverses.
At the next command the operator moves in the opposite direction, see “Pulse sequence of door movement”.

– Safety stop when closing the door – the door reverses
– Safety stop when opening the door – the door stops

Safety stop 2 (safety input)

When the safety input is triggered (e.g. if someone has gone across the photo eyes), the operator stops, reverses or opens depending on the setting of DIP switches 1 + 3.

See chapter “Obstacle detection” for the relevant operator types.

At the next command the operator moves in the opposite direction, see “Pulse sequence of door movement”.

Factory settings:

– Triggers the safety input while
– door is closing – door reverses
– Triggers the safety input while door is opening
– No reaction (door opens)

Overload protection

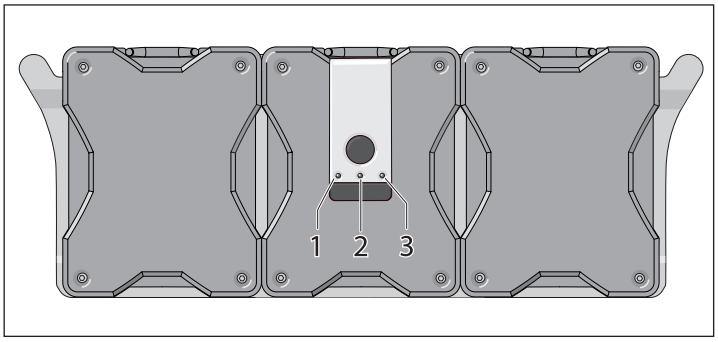
If the operator is overloaded during opening or closing, the control system detects it and stops the drive. After about 20 seconds or a control unit reset, the control unit releases the overload protection again.

The operator can now resume operation.

Operation/Use

LED signals on the control unit

There are three LEDs on the control unit which provide information on the state of charge of the battery units.



1	Left LED flashes red	Left battery box needs to be charged
2	Centre LED flashes green	Battery units are being charged via the solar module
3	Right LED flashes red	Right battery box needs to be charged

Important information!

Under certain circumstances, the red LEDs may flash red even though the state of charge is sufficient.
To stop the flashing, reset the battery by doing the following:

- **Pull the plug of the solar module.**
- **Slide both the batteries outside on the track to separate contact to the control unit.**
- **After about 10 seconds, push the battery units back onto the control unit at the same time.**

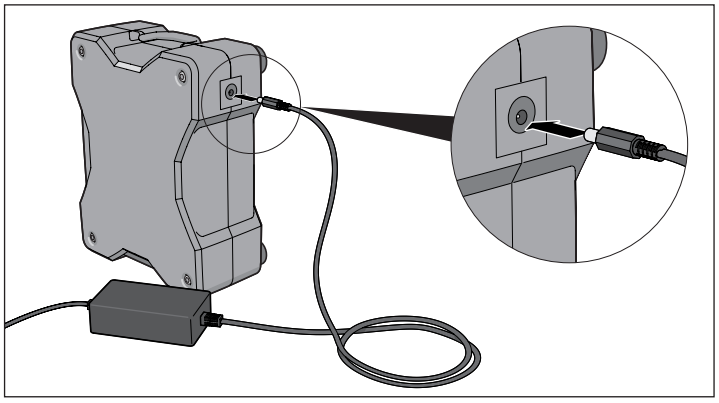
If the LEDs light up red even though there is sufficient solar radiation reaching the CISfix module, check the module for contamination and make sure that the lines and plugs are OK.

Recharging battery unit

Important information!

The battery units are constantly recharged by the Würth Solar CISfix module when solar radiation is sufficient.
Alternatively, the battery units can also be recharged with a charger.

- **Required charging time: 6–12 hours.**
- **Only use the original charger!**
- **Disconnect the charger from the mains power and the battery unit after no later than 12 hours.**
- **Charge the battery in a standing position and not in the direct vicinity of heat sources.**
- **Afterwards (at the latest the next day) always charge the other battery as well. Thus a complete discharge cycle can begin with two fully charged batteries.**
- **It is recommended to charge both batteries once a month.**
- **Charge the batteries before a long absence.**



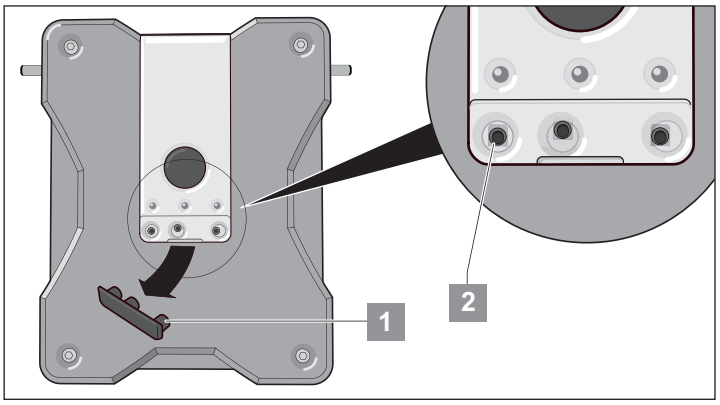
Charge the battery unit immediately when the LED (1) or (3) flashes on the control unit.

- Take the battery unit to be charged off the track.
- Plug the charger into the socket on the inner side of the battery unit to be charged, then attach the mains plug.
  (The left-hand battery pack is pictured, the right unit corresponds to the illustration.)
-

Important information!

Setting the afterglow time of the LED lighting

The afterglow time of the LED lighting can be set to a value between 10–120 seconds.



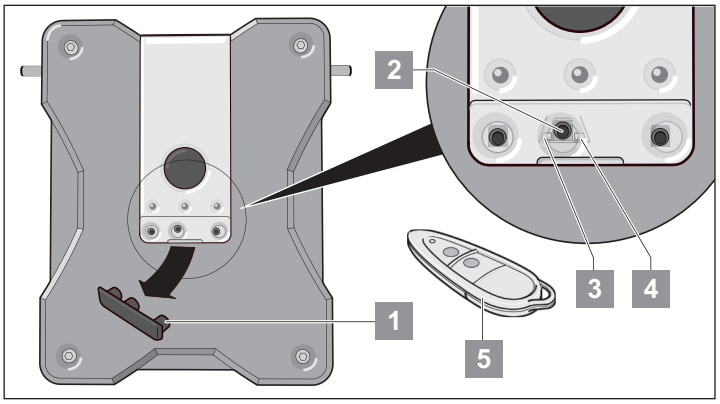
- Remove the rubber cover (1).
- Turn the knob (2) to the desired setting using a suitable tool (e.g. small PH0 x 3.0 mm screwdriver).
- Reattach the rubber cover (1).

Radio receiver

HomeLink-compatible!
If your vehicle is equipped with a HomeLink system (Version 7), our operator and radio receiver with 868.6 MHz are compatible. Another radio frequency (40.685 or 434.42 MHz) must be used with older HomeLink systems. For information see: http://www.eurohomelink.com

- The local safety regulations for the system must be observed to ensure safe operation.
- Information is available from electrical utility companies, VDE (Association for Electrical, Electronic & Information Technologies) and professional associations.
- The operator is not protected against interference caused by other telecommunications equipment or devices (e.g. wireless systems which are being operated properly in the same frequency range).
- Replace the handheld transmitter unit's batteries if you experience reception problems.

Programming handheld transmitter



- Take off the rubber cover (1).
- Press the Teach-in button (2).
  - 1x for channel 1; the LED (3) lights up.
  - 2x for channel 2; the LED (4) lights up.
  - If no code is sent within 10 seconds, the radio receiver switches to Normal mode.
  - Cancelling the teach-in mode: Press the Teach-in button (2) until no more LEDs are lit.
- Keep the desired handheld transmitter button pressed (5) until the LED (3/4) extinguishes, depending upon which channel has been selected.
- LED goes out – programming is finished. The handheld transmitter has transferred the radio code to the radio receiver.
- Reattach the rubber cover (1).

Programming additional handheld transmitters. Repeat the above steps. A maximum of 112 storage locations for each radio receiver are available.

Deleting a handheld transmitter button from the radio receiver

Caution!
For safety reasons every button and all button combinations must be deleted from the handheld transmitter.

If a user moves to a group garage unit and wishes to use the handheld transmitter with it, all radio codes in the transmitter must be deleted from the radio receiver.

- Take off the rubber cover (1).
- Press the Teach-in button (2) and hold it down for five seconds until any LED flashes.
- Release the Teach-in button (2) – the radio receiver is in delete mode.
- Press the handheld transmitter button whose code should be deleted in the radio receiver – LED goes out. The deletion procedure is ended.
- Reattach the rubber cover (1).

Repeat the procedure for all buttons and button shortcuts.

Deleting a channel from the radio receiver

- Take off the rubber cover (1).
- Press and hold the Teach-in button (2).
  - 1x for channel 1; the LED (3) lights up.
  - 2x for channel 2; the LED (4) lights up.
  - The LED lights depending on the channel that has been selected. After 5 seconds, the LED flashes – after another 10 seconds, the LED is lights up steadily.
- Release Teach-in button (2) – the deletion procedure is ended.
- Reattach the rubber cover (1).

Deleting the radio receiver memory

If a handheld transmitter is lost, all channels in the radio receiver must be deleted for security reasons! Afterwards, the radio receivers of all handheld transmitter must be reprogrammed.

- Take off the rubber cover (1).
- Press and hold the Teach-in button (2).
  - After 5 seconds, the LED flashes (3 or 4).
  - After another 10 seconds, the LED lights up steadily (3 or 4).
  - After a total of 25 seconds, both LEDs light up (3 + 4).
- Release Teach-in button (2) – the deletion procedure is ended.
- Reattach the rubber cover (1).

Extended functions and connections

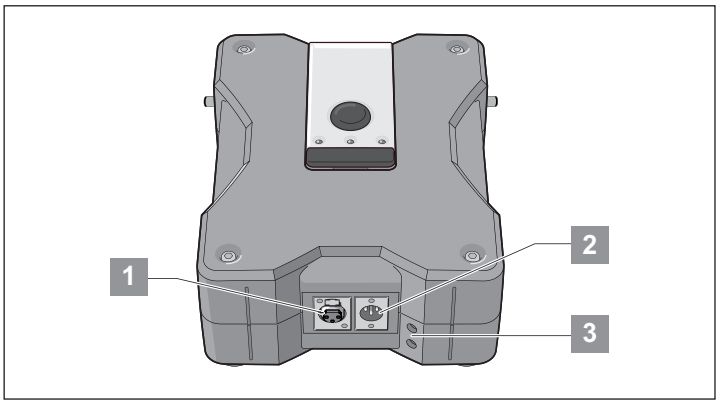
General information

Caution!
The activities described in the chapter “Extended functions and connections” must only be performed by qualified electricians.

• As delivered, the DIP switches are set to the “OFF” position, all additional functions are switched off.

Important information!
Connecting additional consumers (e.g. photo eyes) increases energy consumption, thereby decreasing the number of cycles per battery charge.

Connection to the control unit



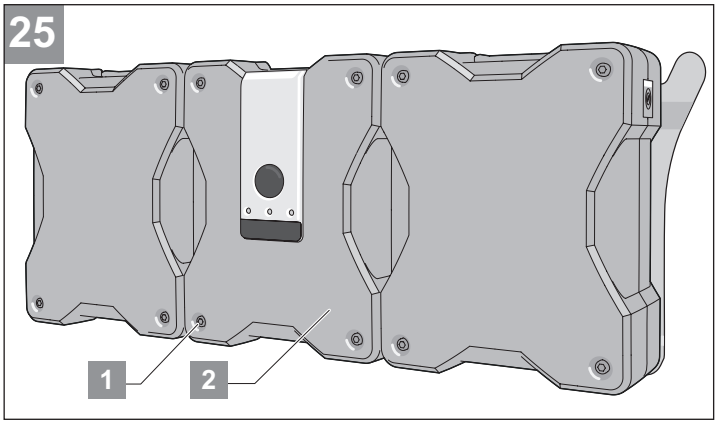
The connections for the track supply line (1) and the Würth Solar CISfix solar module (2) as well as two openings (3) for inserting other cables are located on the bottom of the control unit.

Opening control unit

Caution!
The activities described in the chapter “Extended functions and connections” must only be performed by qualified electricians.

Caution!
The activities described in the chapter “Extended functions and connections” must only be performed by qualified electricians.

25



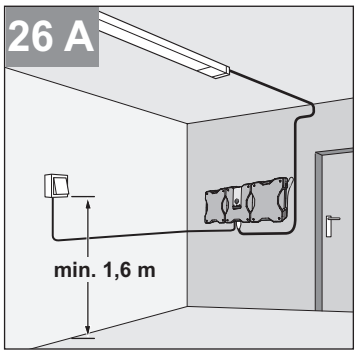
25
- Remove the four screws (1) on the front side.
- Remove front housing (2).

Install and connect the additional button

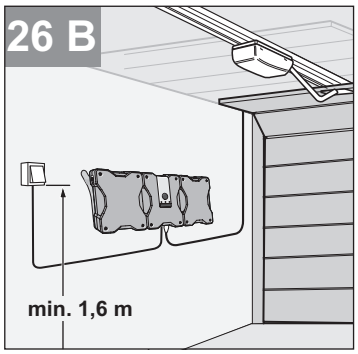
Caution!
When actuating the button, the drive must keep clear of the movement zone of the door and must have a direct view of it.

Important information!
Only necessary if an extra button is required apart from the integrated button. An additional button cannot be connected together with a photo eye.
Only use the connection for potential-free closer contacts. External voltage can damage or destroy the control unit.

26 A

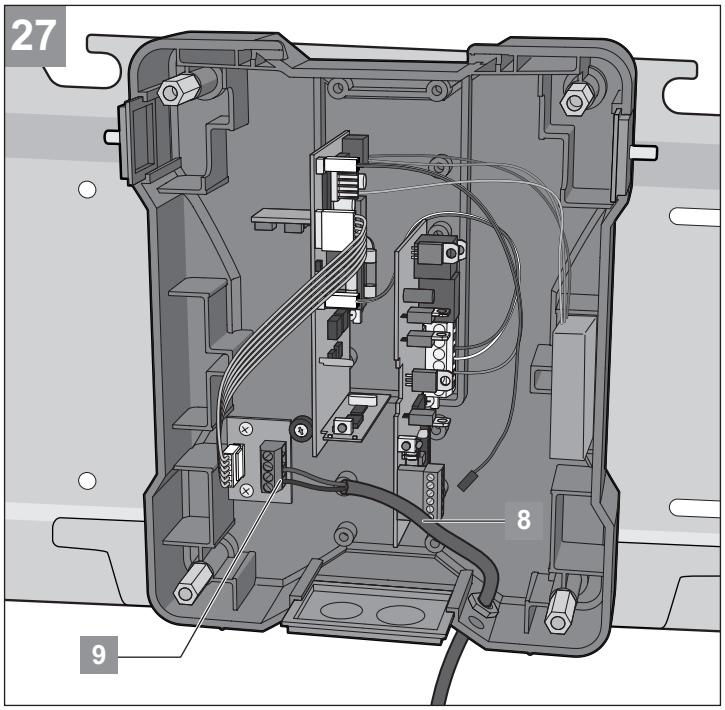


26 B



26
- Permanently install the button cable.
- Install the button in a suitable, easily accessible position in the garage. Minimum height above the ground: 1.6 m
- Install the button cable in the garage. Connect the end of the cable to the button.

27



27
- Open the control unit as described in the previous chapter. **Have you noted the position of the plug and boards?**
- Pull the plug of the flat cable (3).
- Insert the M8 cable gland into the opening on the underside of the control unit. Lead through cable, relieve from strain.
- Connect the button cable (8) to terminals 1 + 2 of the small board (9). Important information!

Connect any existing key switch (potential-neutral closer contact) in parallel to terminals 1 + 2 of the small board (9).

- Reconnect the plug of the flat cable (3).
- Attach front housing (2) and fasten.

Extended functions and connections

Obstacle detection (DIP 1, 2 + 3)

DIP switch 1:

OFF No reaction during an interruption of a safety input.
The door stops during a power cut-off.

ON The operator stops the door.

DIP switch 2: Safety connection function

OFF NC contact for photo eye

ON Button connection for button 2
(partial opening, defined opening and closing)

DIP switch 3: behaviour of operator when the door closes.

OFF Operator stops and opens the door slightly, reversion

ON The operator stops and opens the door completely.

Connect button 2 (DIP 2)

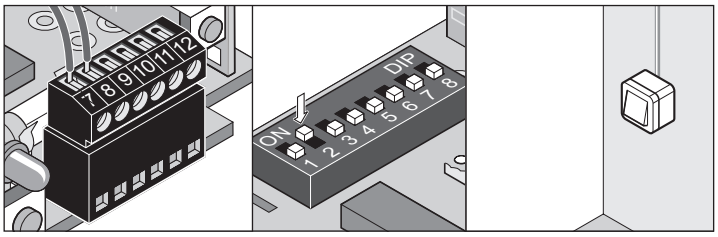
Caution!
Only use the connection for potential-free closer contacts.
External voltage can damage or destroy the control unit.

Important information!
A safety connection is no longer available.
A photo eye cannot be connected in parallel.

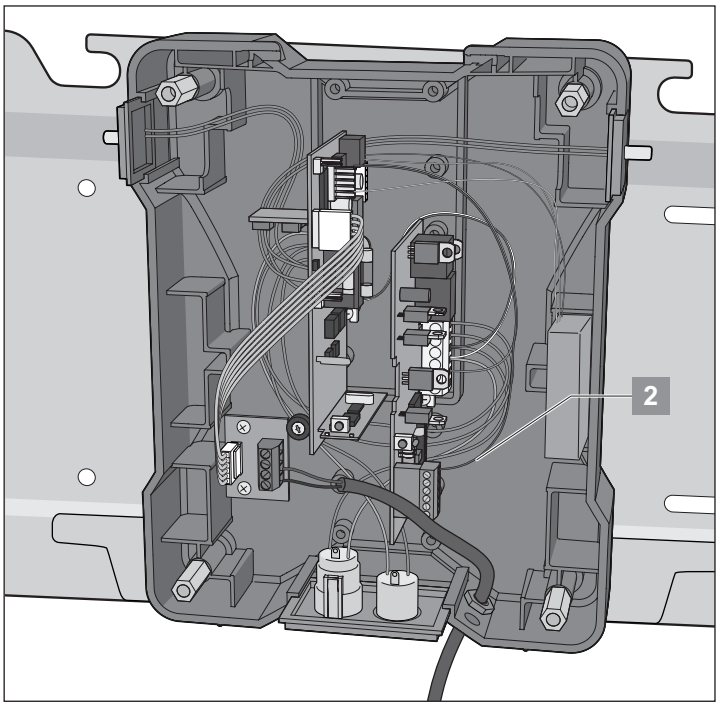
Button 2 can be used as needed for the following functions:

– Defined opening and closing
– Partial opening

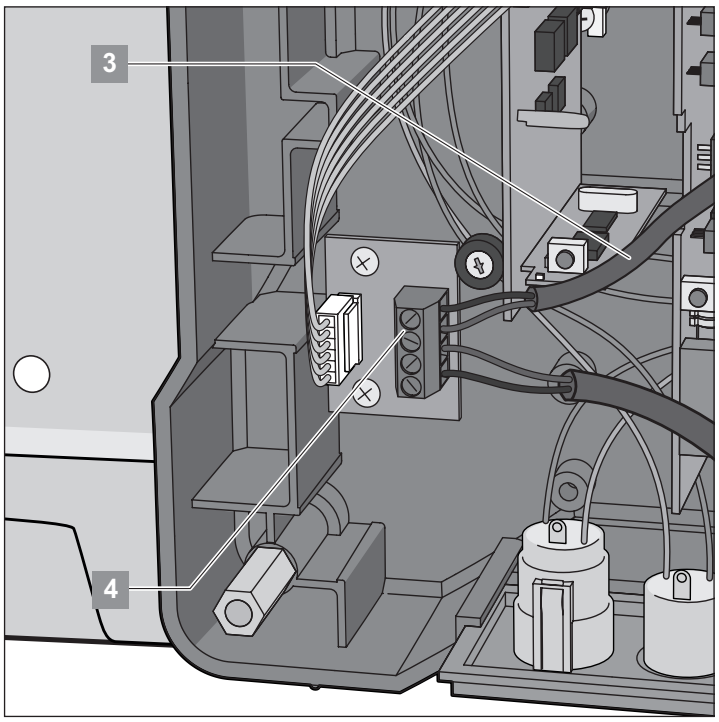
• Approved wiring cross-section: max. 0.75 mm².



• Remove jumper (1) from terminal 7 and 8, **DIP switch 2 ON**.

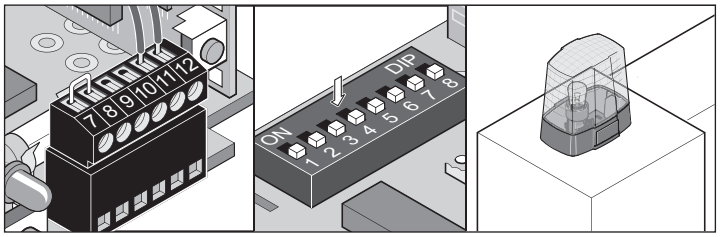


• Reinsert loose cable (2) into terminal 7.



• Fasten cable from button 2 (3) from the small board in position 3 + 4.

Connect warning light (DIP 4)



• Approved wiring cross-section: max. 0.75 mm².
Terminal 11 + 12 unregulated DC 24 V (max. 34 V), max. 1 A

DIP switch 4

OFF Connected warning light is blinking
(controller generates blinking)

ON Door status display | Door status display | Door status indicator
– Lights up if the door is not closed
– Is off if the door is closed

Extended functions and connections

Backjump (DIP 6)

Important information!
You can set DIP switch 6 to ON for sectional doors or doors with ceiling guides; this relieves the operator and door mechanisms. Simpler actuation of the emergency release.

Serves to relieve the door and operator mechanical system. After reaching the door CLOSE end position, the operator moves in the direction of door OPEN, relieving the mechanical system.

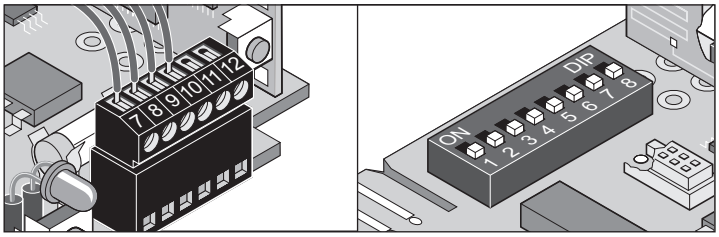
DIP switch 6

OFF Disabled

ON Activated

Connecting photo eye

- Approved wiring cross-section: max. 0.75 mm².



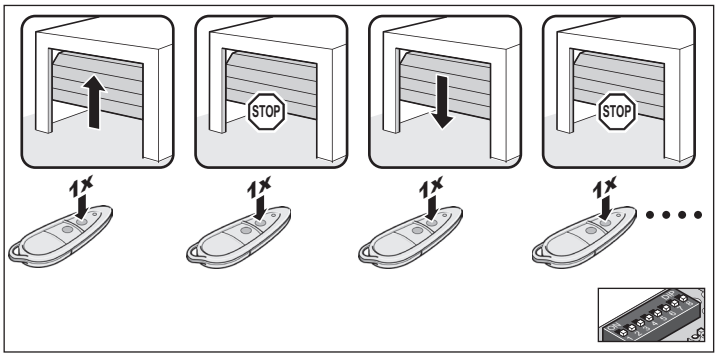
Important information!
A second button cannot be connected in parallel.

Terminal 7 + 8 Safety connection, only if DIP switch 2 “OFF”

Terminal 9 + 10 Regulated DC 24 V, max. 0.1 A
Terminal 9: DC 24 V
Terminal 10: Earth

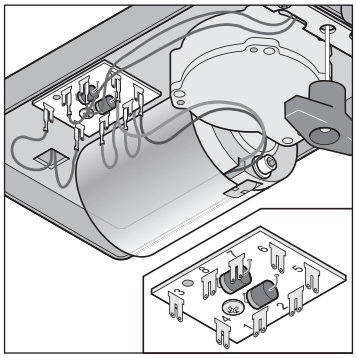
Settings: see Obstacle detection (DIP 1, 2 + 3)

Pulse sequence of door movement (DIP7)



- **DIP switch 7 OFF, standard setting for all operators: o**pen - stop - close - stop - open …
- **DIP 7 ON:**
  Button 1: open - stop - open - stop - …
  Button 2: close - stop - close - stop - …

Carriage circuit board

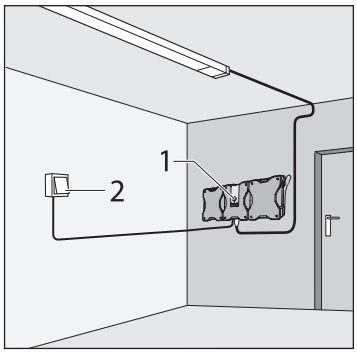


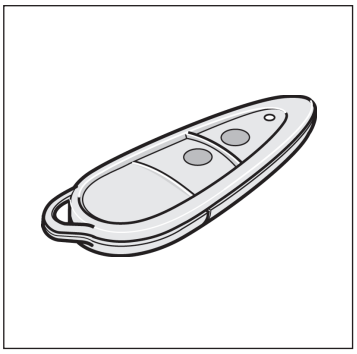
Terminal

1	Chain current draw
2	Track current draw
3 + 4	Door OPEN limit switch
5	Motor cable
6	Motor cable
7 + 8	Door CLOSE limit switch

Defined opening and closing (DIP 7)

Important information!
With this function, only button 1/radio channel 1 opens the door and button 2/radio channel 2 closes the door.





Button 1/channel 1 opens and button 2/channel 2 closes the door.
This function can also be used with only 2 buttons or just with handheld transmitters.

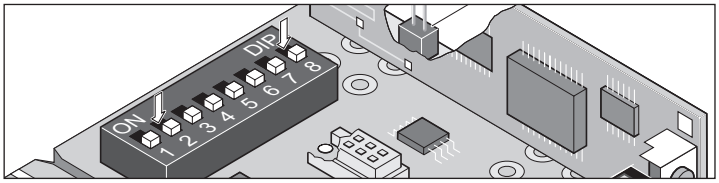
Requirement:
DIP switch 8 OFF, button 2 connected (DIP switch 2 ON) or 2 handheld transmitter buttons programmed.

Extended functions and connections

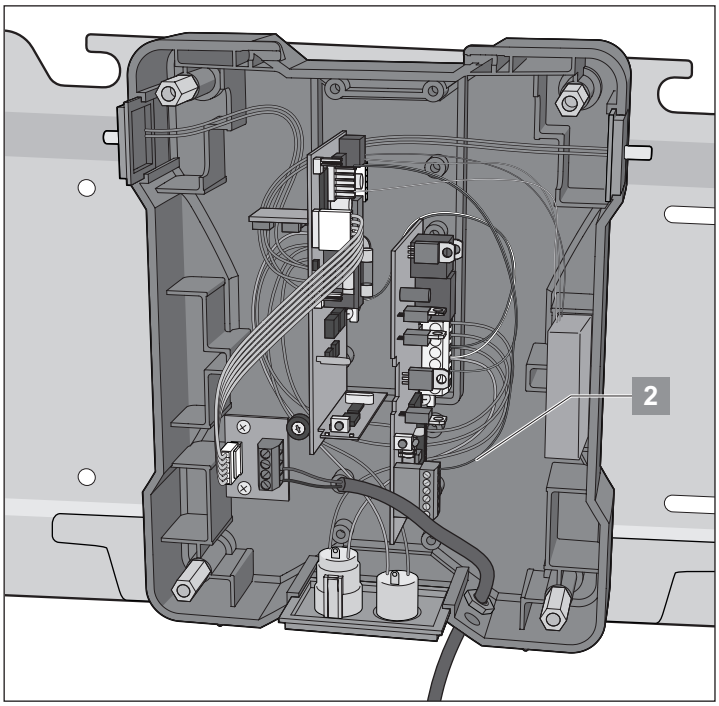
Partial opening (DIP 8)

Important information!
Before programming the second opening height (before DIP 2+8 is set to ON), the operator must be correctly programmed.

Depending on the setting, this function partially opens the door. Examples of use: airing out the garage, opening the side-sectional door for personal access, and many others. The partial opening can be used with two buttons or with handheld transmitters.



DIP switch 2 + 8



OFF Disabled

ON Remove bridge on terminal 7 + 8, switch DIP 2 into position ON
(Function of the input is changed from “photo eye” to “button 2”).
Insert loose cable (2) into terminal 7
Further processes as already described in the instructions

Partial opening with 2 buttons

Install additional button and connect to terminals 1 + 2 as button 2.

Button 1 always opens the door completely.
If the door is partially opened with button 2, pressing button 1 opens the door completely.

Button 2 only opens the door partially if it is closed.
If the door is to be completely opened with button 1 or partially opened with button 2, pressing button 2 again closes the door.

Procedure:

1. Closing door
2. DIP switch 8 ON: activates partial opening
   - Always leave DIP switch 8 set to ON, the OFF setting immediately deletes the set partial opening.
3. Press button 2 (open door from “CLOSE” end position)
   - Door opens until button 2 is pressed again or the door reaches the “door OPEN” end position.
4. Press button 2 once the desired position is reached.
5. Close door with button 2.

Partial opening saved and pressing button 2 opens the door to the saved position.

Deleting the partial opening setting: Set DIP switch 8 to OFF.

Partial opening with the handheld transmitter (2-channel operation)

Program the 2 buttons on the handheld transmitter:
E.g. button 1 on radio channel 1 and button 2 on radio channel 2
Radio channel 1 always has the same function as button 1
Radio channel 2 always has the same function as button 2

Maintenance and care

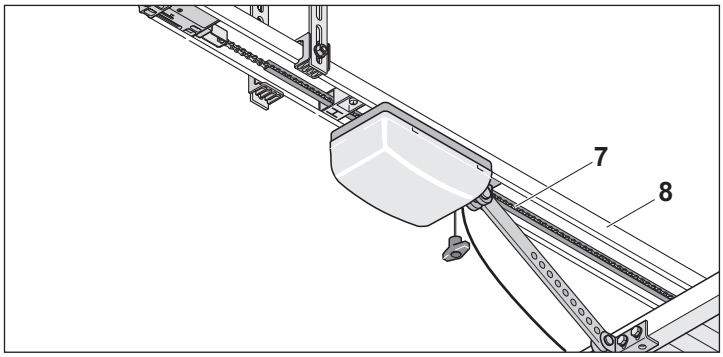
Safety instructions

Danger!
Never use a water hose or high-pressure cleaner to spray down the operator or the control unit housing.

- Always disconnect the XLR plug prior to working on the door or operator.
- Do not use acids or alkalis for cleaning.
- Wipe the operator clean with a dry cloth as required.
- Never reach into a moving door or moving parts.
- There is a risk of persons being crushed or cut by the mechanism or sharp edges of the door.
- Check all fastening screws and bolts of the operator for tight seating and retighten them where necessary.
- Check the door in accordance with the manufacturer's instructions.

Cleaning chains and operator unit track

Caution!
The power is supplied via the chain and the operator unit track to the carriage. It is therefore important to make sure that these parts are clean and oiled only with suitable conductive oil. Use Ballistol or WD40 contact spray.

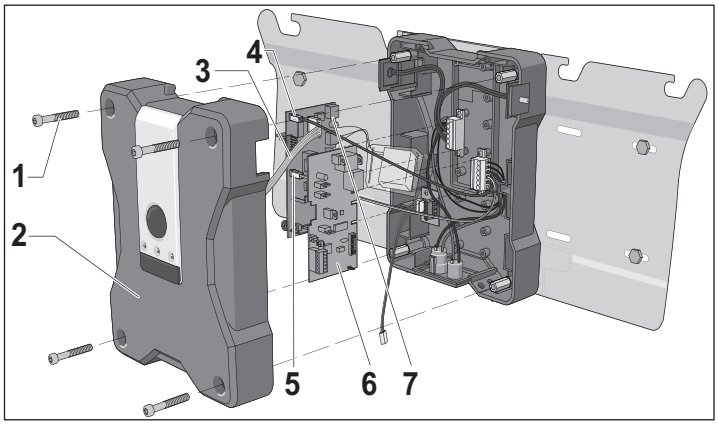


- The chain (7) or the operator unit track (8) is very dirty – clean it with a clean cloth on the inside as well.
- If necessary, lubricate the chain (7) and operator unit track (8) inside with a “conductive” oil. Do not use any grease!

Changing the control unit fuses

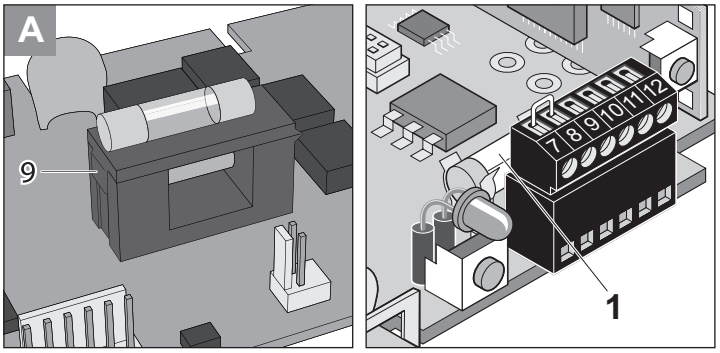
Opening control unit

Caution!
Disconnect the battery units from the control unit. Pull the plug to the solar module (if necessary).



- Remove the four screws (1) on the front side.
- Remove front housing (2).

Caution!
First note the position of the plug and boards. Make sure the board and plug position is correct when reinserting them! Mixing up the contacts damages the device. Only hold the outside edge of the boards (6 and 7)! Do not touch the electronic components!



A **Loosen the guide idler (1) and push it in the direction of the arrow; fold out the chain guide (2).**

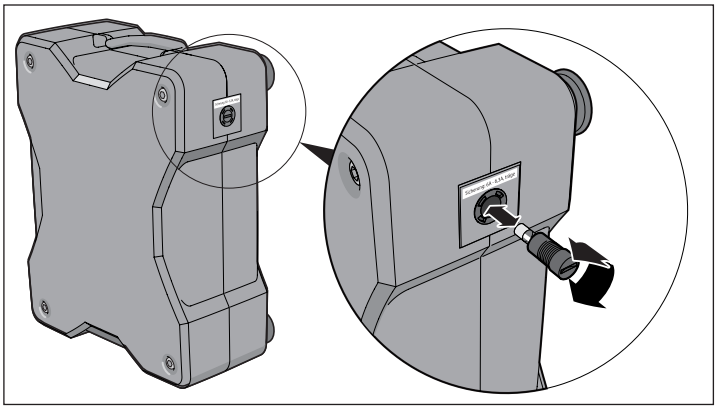
- Pull the flat cable (3) plug and the two other plugs (4) and (5) on the left board (7).
- Remove the left board (7).
- Remove defective glass tube fuse from the fuse holder (9) and replace. (Type: T 8 A L 250 V)
- Reinsert the control board. **Make sure the alignment is correct.**
- Connect the plugs.
- Reattach front housing (2) and fasten.

B **The fuse of the main control unit secures the door control unit.**

- Pull the plug of the flat cable (3).
- Remove the right board (6).
- Remove defective glass tube fuse from the fuse holder (10) and replace. (Type: T 6 A L 250 V)
- Reinsert the control board. **Make sure the alignment is correct.**
- Connect the plug.
- Reattach front housing (2) and fasten.

Replacing the battery unit fuse

Important information!
The battery unit fuse secures the discharging current from the battery box.



The right-hand battery unit is pictured; the left side corresponds to the illustration.

- Screw fuse holder on the outside of the respective battery unit
- Replace glass tube fuse (8 A slow-acting)
- Screw on fuse holder

Maintenance and care

Regular testing

Regularly check that safety equipment is fully functional, at least once a year (e.g. BGR 232). Check that pressure-sensitive safety devices (e.g. safety contact strip) are operating correctly every four weeks (see EN 60335-2-95).

Testing	Behaviour	Yes or No	Possible cause	Remedy
Power deactivation Try to stop the door wing while it is closing with a 300 mm tall object.	The operator reverses when it hits the object.	Yes	The force cut-off works without limitations.	Leave all settings as they are.
		No	Door incorrectly adjusted	Adjust door, call a technician.
Emergency release Proceed as described in the “Emergency release” section.	The emergency release can be easily actuated (pull once and the operator releases).	Yes	All OK!	
		No	Operator forces the door closed. Door and operator mechanism is stressed.	Adjust door CLOSE end switch or switch on Backjump (DIP switch 6 ON).
			Emergency release defective.	Repair emergency release.
			Door jammed.	Check door, see door owner's manual.
Safety contact strip, if present Open/close the door and actuate the strip.	Adjust the behaviour of the door, as set with DIP switch 1, 2, or 3.	Yes	All OK!	
		No	Cable breakage, terminal loose.	Check the wiring; retighten the terminal.
			DIP switch adjusted.	Set the DIP switch.
			Strip defective.	Decommission the system and lock it to prevent reactivation. Then contact customer service!
Photo eye, if present Open/close the door and interrupt photo eye.	Adjust the behaviour of the door, as set with DIP switch 1, 2, or 3.	Yes	All OK!	
		No	Cable breakage, terminal loose.	Check the wiring; retighten the terminals.
			DIP switch adjusted.	Set the DIP switch.
			Photo relay dirty.	Clean the photo eye.
			Photo eye maladjusted (holder bent).	Adjust the photo eyes.
			Photo eye fault.	Decommission the system and lock it to prevent reactivation. Then contact customer service!

Miscellaneous

Disassembly

Important!
Observe the safety notices!

The sequence is identical to that described in the “Installation” section, but in reverse order. Ignore the setting instructions.

Disposal

Observe applicable national regulations.

Warranty and customer service

The warranty complies with statutory requirements. The contact person for warranties is the specialist retailer.

The warranty is only valid in the country in which the operator was purchased.

Batteries and fuses are excluded from the warranty.

If you require after-sales service, spare parts or accessories, please contact your specialist retailer.

We have tried to make the installation and operating manual as easy as possible to follow. If you have any suggestions as to how we could improve it or if you think more information is needed, please send your suggestions to us:

Fax: +49 (0) 7021 9447-25

E-mail: info@aperto-torantriebe.de

Troubleshooting

Further tips on troubleshooting

Important!
Many malfunctions can be resolved by a control unit reset (delete force values), then reprogram the operator.

HomeLink-compatible
If your vehicle is equipped with a HomeLink system (Version 7), our operator and radio receiver with 868.6 MHz are compatible. Another radio frequency (40.685 or 434.42 MHz) must be used with older HomeLink systems.

Information can be found under http://www.eurohomelink.com or contact your specialist dealer.

If you cannot find the malfunction in the table and eliminate it, take the following actions:

- Perform a control unit reset (delete force values) on the control unit.
- Disconnect connected accessories (e.g. photo cells) and reconnect the jumper for a safety connection.
- Set all DIP switches to the factory setting.
- Set potentiometer to the factory setting, if present.
- Check all connections on the direct connectors and terminal strip and retighten if necessary.

Operator malfunctions can be corrected according to the following table. If this does not help, contact your specialist dealer for assistance or consult our website at http://aperto-torantriebe.de

Malfunction	Possible cause	Corrective action
Operator does not function and lights do not light up.	No voltage present.	Attach XLR plug. Check batteries (check state of charge (LEDs)); are the battery units correctly attached? (Check glass tube fuse in battery units)
	No control unit installed.	Install controller.
	Solar module.	Check solar module (plug/alignment/contamination...).
The red LED in the light field of the control unit continues to flash although the battery unit has been attached.	Battery unit empty.	Charge battery unit.
	Contact faulty.	Check contact, adjust the support rail if applicable.
Red LED behind the rubber cover flashes in “door CLOSE” end position.	Operator has not been programmed, no force values stored.	Program the operator. See chapter “Commissioning”.
Operator doesn't function.	Controller incorrectly installed.	Plug the control unit correctly into the connector.
	Photo eye interrupted.	Remove interruption.
Operator does not function when operated with a handheld transmitter.	Battery in the handheld transmitter is flat.	Replace battery with new one.
	The handheld transmitter has not been programmed for the radio receiver.	Program handheld transmitter.
	Incorrect radio frequency.	Check the frequency (40 MHz with wire antenna, 868/434 MHz without external antenna).
	The command is constantly pending because the button of the handheld remote control is stuck.	Release the key or exchange the handheld transmitter.
Operator does not function when operated by an external button.	Button not connected or defective.	Connect button or replace it.
Operator does not end programming procedure.	End positions incorrectly adjusted.	Adjust end positions, see chapter “General commissioning”.
	Afterglow time too short.	To extend the afterglow time, see “Setting the afterglow time of the LED lighting”.
Door stops while closing, moves about 10 cm in the opposite direction, and stops.	Actuation of the force cut-off due to an obstacle.	Remove obstacle, open door completely.
	Incorrect force values programmed or force tolerance set too low.	Wipe force values and teach again
	Switch-trigger incorrectly adjusted.	Adjust switch-trigger, see chapter “Adjusting end switches”.
	Door incorrectly adjusted or defective (e.g. spring shaft).	Have door adjusted or repaired by a technician.
Door stops while opening, moves about 10 cm in the opposite direction and stops.	Force cut-off actuated by an obstacle.	Remove obstacle, open door completely.
	incorrect force values programmed or force tolerance too low	Delete force values and reprogram.
	Guide idler incorrectly adjusted.	Adjust switch-trigger, see chapter “Adjusting end switches”.
Door stops while opening.	Connected photo eye interrupted and DIP switch 1 is ON.	Eliminate interruption or turn DIP switch 2 to OFF.
Operator does not close the door.	Photo cell power supply interrupted.	Check connection.
Operator **opens** the door and then does not respond to a command from the handheld transmitter or the button.	Safety input tripped (e.g. photo eyes defective).	Remove obstacle from photo eyes.
		Repair photo eyes.
		Direct connector not properly plugged in.
	“Door CLOSE” end switch in the carriage defective.	Replace end switch.

Troubleshooting

Malfunction	Possible cause	Corrective action
Operator **closes** the door and then does not respond to a command from the handheld transmitter or the button.	“Door OPEN” end switch in the carriage defective.	Replace end switch.
No light at connected warning light.	Defective fuse.	Replace fuse; see chapter “Maintenance and care”.
	Defective light bulb.	Replace bulb.
Speed varies during opening and closing.	Operator starts slowly and then accelerates.	Soft running, completely normal.
	Chain track dirty.	Clean the track, lubricate again (see Care and maintenance).
	Chain track lubricated with incorrect oil type.	Clean the track, lubricate again (see Care and maintenance).
	Chain tightened incorrectly.	Tighten the chain, see chapter “Installation”.

Displays on radio receiver

Malfunction	Possible cause	Corrective action
All LEDs flashing.	All memory locations occupied (max. 112).	Delete any handheld transmitters that are no longer needed.
		Install additional radio receivers.
LED 3.1 or 3.2 lights up constantly.	Radio signal is being received; button of handheld transmitter might be defective or an external signal is being received.	Remove the battery from the handheld transmitter.
		Wait until the external signal falls off.
LED 3.1 or 3.2 lights up.	The radio receiver is in the Learning mode and is waiting for a radio code from a handheld transmitter.	Press the desired handheld transmitter button.

APERTO Germany

APERTO Torantriebe GmbH

Hans-Böckler-Straße 29
73230 Kirchheim/Teck
Germany

Phone: +49 (0) 7021 9447-0
Fax: +49 (0) 7021 9447-25

info@aperto-torantriebe.de
www.aperto-torantriebe.de